

List K.



ANÆSTHETICS — AND — ANÆSTHETIC APPARATUS

JUNE
1911

CLAUDIUS ASH, SONS & CO., Limited,
BROAD STREET, GOLDEN SQUARE, LONDON, W.



Telephone Number: Gerrard 420 (5 lines)
Telegraphic Address: "Frenes," London.

[ENTERED AT STATIONERS' HALL.]

ANÆSTHESIA INSTRUMENTS.

(Mr. W. BARRITT'S.)

In introducing and describing these instruments, Mr. Barritt says:—

"Pressure Anæsthesia is a method adopted for the immediate removal of the pulp without pain, and for obtunding sensitive dentine in cavity preparation. As the secret of success of treatment of any kind lies chiefly in the manner in which the remedy is applied, it is advisable to have the best and surest means always at hand. Cocaine Hydrochloride is without doubt the best drug for use in pressure anæsthesia. It must be of the purest quality, and in the form of small pellets which are easy to handle; Neurocaine pellets are recommended. In conjunction with Cocaine, a solution of Adrenalin Chloride is found to be a great help, since it constricts the pulp-vessels and admits of the Cocaine the more readily penetrating into the root-canals. In the past, Cocaine and Adrenalin have been applied under pressure with a blunt instrument.

The great drawback to the use of a blunt instrument is that a great part of the Adrenalin, and with it the Cocaine, is forced away from the place which it is intended for. To prevent this loss, I have designed a set of three instruments which ensure perfect success in the immediate removal of the pulp and in the obtunding of sensitive dentine in cavity preparation. It is not only frequently an advantage, but a necessity to complete the treatment of a tooth at one sitting—hence it is advisable to have at hand every convenience for the painless removal of a pulp.

METHOD OF TREATMENT:

Excavate the tooth as near to the pulp as possible without giving unnecessary pain to the patient. Then place a pellet of Neurocaine in the region of the pulp chamber and place a small pledget of cotton-wool soaked in a solution of Adrenalin Chloride upon it, cover the cotton with a small circle of rubber-dam, corresponding to the size of the cavity, and apply pressure for half a minute or so with one of the three anæsthesia instruments here illustrated.

It is advisable to use the largest instrument which the cavity will admit. If the pulp is already exposed, its entire extirpation may be carried out. Should there have been no previous exposure, it is best to open up the pulp chamber and to apply Adrenalin a second time in the manner already described. By this means pulp-canals can be cleaned with little discomfort to the patient, and the treatment of the tooth can be completed at one sitting. For obtunding sensitive dentine when preparing a cavity, the method of application is similar to that for the removal of the pulp, with this difference: the pledget of cotton-wool may be soaked with water instead of with Adrenalin."



1. In Ebony Handles . . (Figs. 1-3) each 3 s. d. 4

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ANÆSTHETIC Apparatus 20 cc
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ANÆSTHETIC APPARATUS.

GENERAL DIRECTIONS FOR ORDERING.

In ordering Anæsthetic Apparatus please state whether it is wanted for the administration of Nitrous Oxide Gas only, or of Nitrous Oxide and Oxygen in combination.

Should it be wanted in the United Kingdom or on the Continent for use in the Operating Room, two 100 or two 50-gallon gas cylinders fixed to a Twin-Stand are the best; if for patients at their own houses, one 100 or one 50-gallon cylinder fixed to a single attachment is most useful. For the administration of the mixture (N_2O and O) a triple gas-stand holding two 100 N_2O gas cylinders and one oxygen cylinder is most suitable.

Colonial customers will find 200 and 500-gallon gas cylinders, especially the cylinders with pedal attachment shown on page 10, very convenient for use in the Operating Room; and some extra one-hundred size cylinders will serve for use when travelling.

It should also be stated of what colour the rubber gas bags required are to be—whether of black or red India-rubber, of silk, or of check material. The twin gas bags employed for the mixture are made of silk, of rubber, and of a special strong black material.

Our stock, which consists of a large and well-assorted variety of the best Anæsthetic Apparatus, enables us to execute orders without the least delay.

In order to avoid disappointment we desire to state that we are unable to lend gas cylinders, but to save delay we usually forward **refills** immediately the empty cylinders come to hand. In every case, however, we recommend customers to wait for the refilling of their own cylinders: this can conveniently be done if one or two extra cylinders are owned, and always kept full. We are careful to see that every cylinder is perfect, and contains the full weight of gas before it leaves our possession—a practice which forms the most safe guarantee that we can offer to the Profession.

Before forwarding cylinders for recharging care should be taken to close the valves, in order to prevent the interchange of the contents with the external atmosphere, owing to variations of temperature and barometric pressure. Failure to close the valves may lead to the cylinders being contaminated by the products of decomposition which may arise from damp packing or other decaying material.

CLAUDIUS ASH, SONS & CO., Limited.

GAS CYLINDERS.

(SPURGE'S.)

SPURGE'S Gas Cylinders are constructed of the best mild steel and made to specification, in accordance with the conditions laid down in the Government Blue Book of 1903, **On the precautions required to ensure their safety.**

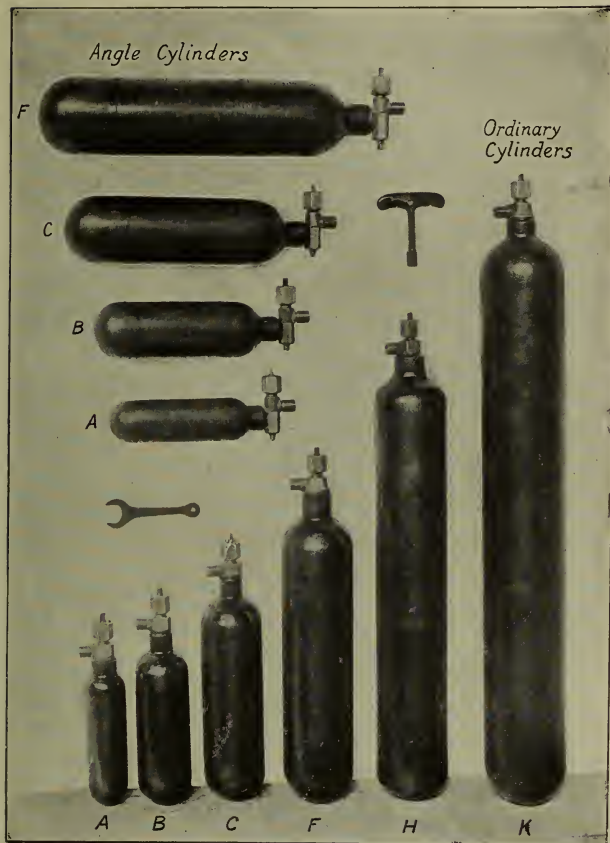
Size.	Capacity in Gallons.		Approximate Dimensions in inches.		Approximate Weight in lbs.
	N ₂ O.	Oxygen.	Length over all.	External Diameter.	
A—25-gallon	25	7½	10¾	2¼	2¾
B—50 „	50	15	12¼	3	4¾
C—100 „	100	30	15	3½	7
F—200 „	200	60	20	4	13
H—300 „	300	90	27	4	18
K—500 „	500	150	35	4½	30

In conformity with the Blue Book, the Cylinders are annealed and tested hydraulically up to 3,360 lbs. per square inch, under Mr. Spurge's personal supervision.

They are also punch-marked with the number of the test and date, and this record is kept in his **Cylinder Register** for future reference.

The test, as will be seen, is a very severe one, and only those Cylinders which pass it are taken into use. For example, if, when the pressure is released from a Cylinder, it is found that the stress on the material has **not exceeded its elastic limit—i.e., that there is no increase detected in its capacity**, resulting from the pressure applied—such a Cylinder is considered to be absolutely safe for every purpose for which it is intended.

For prices of Spurge's Cylinders, see pages 4 and 5.



NITROUS OXIDE GAS.

(SPURGE'S.)

Guaranteed to be—**Absolutely Pure,****Free from Malodorous Taint,****Productive of Good and Safe****Anæsthesia, and****Unattended by Unpleasant After-Effects.**

ORDINARY GAS CYLINDER.

A—Tap of Cylinder.**B**—Gland Nut for protecting the lower part of the Tap on the Cylinder.**C**—Male Screw on Cylinder to which the union of the Cattlin's Bag is attached.

	Cylinder.			Gas.		Complete.		
	£	s.	d.	s.	d.	£	s.	d.
25-gallon size	1	0	0	1	6	1	1	6
50 „ 	1	3	0	2	9	1	5	9
100 „ 	1	4	6	5	6	1	10	0
200 „ 	1	15	0	11	0	2	6	0
300 „ 	1	17	6	15	0	2	12	6
500 „ 	2	10	0	25	0	3	15	0

Cylinders refilled at the prices here noted for the Gas. When the Gas in Cylinders that are refilled at one time, amounts to 300 gallons or more, it is charged at the rate of 5s. per 100 gallons.

Each Cylinder is thoroughly cleansed and tested before it is refilled.

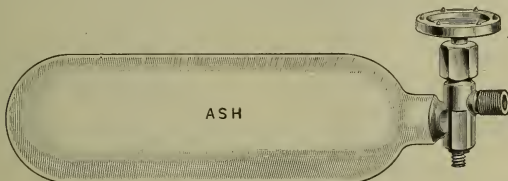
NITROUS OXIDE GAS—continued.

SPURGE'S ANGLE GAS CYLINDERS.

MADE OF STEEL, AND MOST CAREFULLY ANNEALED.

Spurge's Angle Cylinders for Nitrous Oxide Gas, or for Oxygen, are recommended with the fullest confidence.

They are favoured by the most eminent Anæsthetists, who claim that this form of Cylinder renders the Gas less liable to freeze in the valve, and thus hamper the administration of the anæsthetic, than other kinds of Gas Cylinders.



ANGLE GAS CYLINDER.

		Cylinder.	Gas.	Complete.
		£ s. d.	s. d.	£ s. d.
25-gallon size	. . .	1 3 0	1 6	1 4 6
50	" . . .	1 5 0	2 9	1 7 9
100	" . . .	1 7 6	5 6	1 13 0
200	" . . .	1 17 6	11 0	2 8 6

Cylinders refilled at the prices here noted for the Gas.

OXYGEN GAS

FOR USE IN CONJUNCTION WITH NITROUS OXIDE.

IN ORDINARY GAS CYLINDERS.

A 100-gallon size Nitrous Oxide Cylinder holds about 30 gallons of Oxygen. Cylinders are refilled at 2s. 6d. each.

		Cylinder.	Oxygen.	Complete.
		£ s. d.	s. d.	£ s. d.
100-gallon size	. . .	1 4 6	2 6	1 7 0
50	" . . .	1 3 0	1 3	1 4 3

IN ANGLE TYPE CYLINDERS.

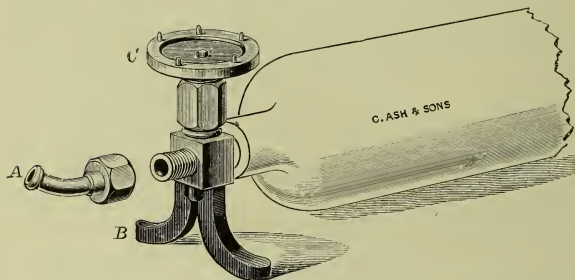
		£ s. d.	s. d.	£ s. d.
100	" . . .	1 7 6	2 6	1 10 0
50	" . . .	1 5 0	1 3	1 6 3
25	" . . .	1 3 0	1 0	1 4 0

COXETER'S & CLARKSON'S NITROUS OXIDE GAS.

		s. d.
Per 100 gallons	. . . . .	5 0

ASH'S COMBINED GAS CYLINDER AND PEDAL ATTACHMENT.

(REGISTERED. REG. NO. 289,847.)



Those Dentists who employ Nitrous Oxide Gas have probably felt the need of such a combination as is here shown, viz., a gas cylinder and stand joined together so as to form a complete apparatus ready for immediate use without the addition of any other part or parts.

The Stand *B* with Valve is cast in one piece and permanently fitted to the Gas Cylinder. The only separate parts are the Union *A* and the Circular Foot Key *C*. By means of the latter the tap is easily opened and closed with a gentle movement of the foot to the left or right. All that the administrator therefore requires to do when he receives the apparatus is to put the Foot Key on the tap as it appears in the illustration, to screw the Union *A* in position, and to slip the end of the India-rubber tubing over the nozzle.

The advantages claimed for the Apparatus are :

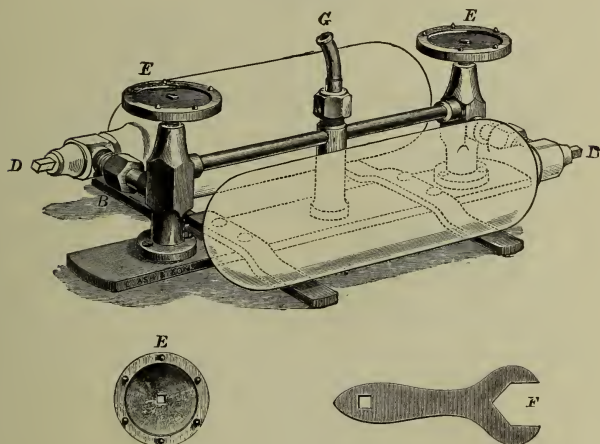
- | | |
|--------------------------------|----------------------------------|
| 1. Simplicity of construction. | 4. Freedom from leakage. |
| 2. Comparative cheapness. | 5. Saving of trouble and time. |
| 3. Readiness for instant use. | 6. Absence of wear of the parts. |

Apparatus as illustrated minus Union *A*, in three sizes, viz., with

	£	s.	d.
Cylinder containing 100 gallons of gas	1	17	6
" " 200 " "	2	13	6
" " about 30 gallons Oxygen	1	14	6
Union <i>A</i>	extra	0	3
		0	

TWIN GAS CYLINDER STAND.

(WELLER'S.)



DESCRIPTION:

- B*—Union connecting Gas Cylinder with Stand.
D—Taps of Gas Cylinders.
E—Circular Foot Keys.
F—Spanner for tightening Union *B*.
G—Union to which tubing of Cattlin's Bag is attached.

DIRECTIONS FOR USE:

Fix the two Cylinders—fifty-gallon or one-hundred-gallon size, steel or iron—by means of the Unions *B*. Attach the union of the Cattlin's Bag to the Stand, as shown under *G*. Open the Taps *D* of the Cylinders.

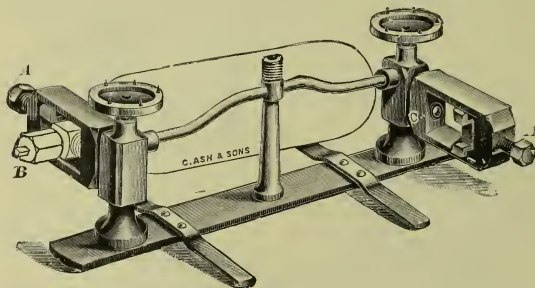
The apparatus is now ready for use. A slight unscrewing movement with the foot on either Foot Key *E* releases the gas, which will freely enter the Cattlin's Bag, and a gentle screwing-up motion with the foot turns off the gas. Scarcely any force is required to work the Foot Keys.

	£	s.	d.
Stand, with two Foot Keys <i>E</i> , and Spanner <i>F</i> , but minus Union <i>G</i>	1	10	0
The same, Nickel-plated	1	16	0
The same, with Pillar, on which there are two Spirals for holding Facepiece, etc.	2	5	0
Ditto ditto Nickel-plated throughout	2	15	0
Union <i>G</i>	0	3	0
Pillar with two Spirals, separately	0	12	0

TWIN GAS CYLINDER STAND

WITH DETACHABLE CLAMPS.

(WELLER'S.)



By means of the nuts **A A** on the Detachable Clamps of this Stand the outlet of the Gas Cylinder is pressed over the inlet nipple **C** of the Stand, and it is only then necessary to open Tap **B** of the Cylinder; there is no trouble with worn screws on cylinders, or screws that vary in size, for the simple reason that they have not to be used for securing the Cylinders to the Stand.

Stand, Lacquered, for two 100-gallon size Cylinders, with 2 Foot	£	s.	d.
Keys and Spanner.	2	10	0
Ditto ditto for two 50-gallon size ditto ditto ditto	2	10	0
Either of the above with Pillar and Spirals and Spanner	3	4	0

KEYS FOR GAS CYLINDERS.

(SPURGE'S.)

FIG. 1.

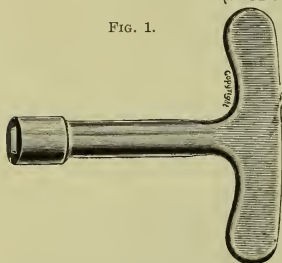


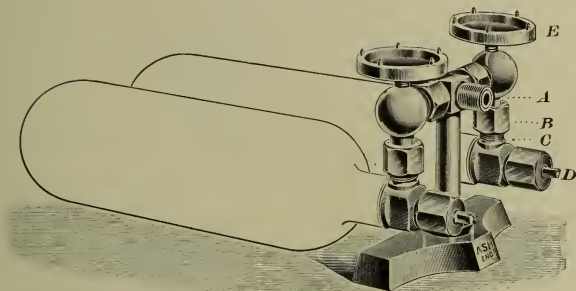
FIG. 2.



Plain Steel, Japanned	(Fig. 1)	s.	d.
The same, Nickel-plated	(„ 1)	2	6
Combined Key and Spanner	(„ 2)	3	6

PORTABLE PEDAL ATTACHMENT.

(MR. P. EDGELOW'S.)



One-third natural size.

A—Male Screw to which the Union of the Cattlin's Bag is fixed.

B—Union for attaching to Gas Cylinder.

C—Male Screw on Gas Cylinder.

D—Tap of Gas Cylinder.

E—Circular Foot Key.

F—Spanner for attaching Union to Gas Cylinder.

The corresponding parts on the left side of the illustration are for the same purposes.

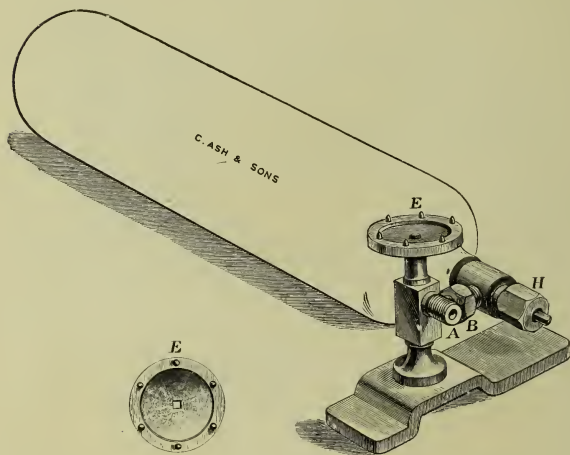
In shutting off the gas with this Pedal Attachment no force whatever is necessary. The valve plug is so finely turned that an easy movement closes it effectually. In this respect the Pedal Attachment differs entirely from the taps of gas cylinders, which sometimes require considerable force to open and close.

Being portable, it is specially suitable for carrying about in the Anaesthetist's Hand-Bag.

	£	s.	d.
Attachment complete with two Foot Keys and Spanner .	1	10	0

PEDAL ATTACHMENT

FOR 100, 200, AND 500-GALLON SIZE CYLINDERS.



DESCRIPTION:

A—Male Screw to which the Union of the Cattlin's Bag is attached.

B—Union connecting Pedal Attachment to Gas Cylinder.

E—Foot Key for opening the Tap of the Gas Cylinder and releasing the Gas.

H—Gland Nut for protecting the lower part of the Tap on the Gas Cylinder.

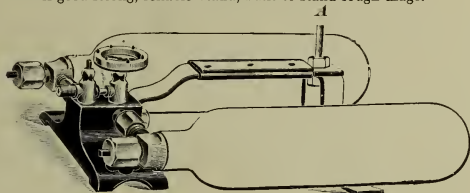
It is the simplest Pedal Attachment that has yet been introduced for 100, 200, and 500-Gallon size Cylinders.

	£	s.	d.
PRICE, including Foot Key and Spanner . . .	1	1	0
Pedal Attachment with Foot Key and Spanner for 50-gallon size Cylinder, same pattern as illustrated but of lighter make . . .	1	1	0

TWIN CYLINDER STAND (SPURGE'S).

(WAR OFFICE PATTERN.)

A good strong, reliable Stand, built to stand rough usage.



STAND FOR ORDINARY CYLINDERS.

	£	s.	d.
With one circular Foot Key and Spanner	2	0	0
The same with Pillar and Hooks as shown to the left	2	10	0

This Pillar fits on stem at A in illustration of Stand.

STAND.

FOR 50 AND 100-GALLON SIZE
ANGLE GAS CYLINDERS.
(SPURGE'S.)

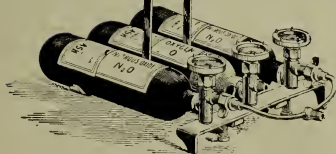
Of the various Stands shown in this List this is the only one that will take Spurge's Angle Gas Cylinders—see page 5. The illustration so clearly shows how the Cylinders are arranged that description is unnecessary.

Twin Stand complete with Double Union, two Fly Nuts, and Circular Key	£	s.	d.
	1	5	0
The same with Pillar and Hooks	1	17	6
Triple Stand for two Nitrous Oxide and one Oxygen Cylinders	1	17	6
The same with Pillar and Hooks	2	15	0

PILLAR AND
HOOKS.



U



STAND FOR ANGLE CYLINDERS.

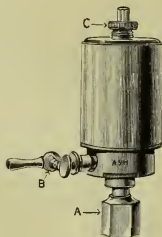
In ordering the above, please state for which size Cylinders the Stand is required.

GAS REGULATOR—PATENTED.

(WEILER'S.)

FOR CONTROLLING THE FLOW OF COMPRESSED GASES FROM STEEL
AND IRON CYLINDERS.

WEILER'S Gas Regulator is a distinct advance upon anything that has yet been made for controlling the flow of compressed gases from Steel and Iron Cylinders. No **Quieter** is required with it, there is nothing about it to get out of order; and it so completely silences the gas in its passage from the Cylinder to the Cattlin's Bag that the most nervous patient cannot be alarmed.



A—Nut for attaching Regulator to Gas Cylinder or Stand.

B—Nozzle on which small India-rubber Tubing of Cattlin's Bag is slipped, with Tap for admitting or shutting off the gas.

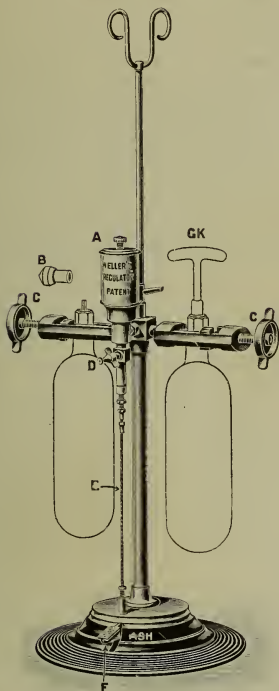
C—Screw Knob by means of which the gas supply is regulated when the Regulator is attached to the outlet screw of a Gas Cylinder or Stand. The flow from the Cylinder can be completely controlled to suit the needs of the Administrator by means of the milled screw knob **C**.

DIRECTIONS FOR USE:

To obtain a slow flow unscrew knob **C** to its full height and then turn it downwards one thread. From this point the flow can be increased to any extent, within the range of the Regulator, by a further screwing-down action.

	£	s.	d.
Regulator as illustrated	2	0	0

GAS STAND WITH WELLER'S REGULATOR AND AUTOMATIC FOOT LEVER.



The gentlest pressure on the Foot Lever F gives the Anaesthetist complete control over the outflow of the gas ; in this respect the Stand is the most convenient that has ever been introduced.

Weller's Gas Regulator A is a distinct advance upon anything that has yet been made for controlling the flow of compressed gases from Steel or Iron Cylinders. No Quieter is required with it, there is nothing about it to get out of order, and it so completely silences the gas in its passage from the Cylinder to the Cattlin's Bag that the most nervous patient cannot be alarmed.

Total height, 24 inches. Width at C C, 12 inches.

- A—Weller's Gas Regulator.
- B—Plug to take the place of Cylinder when it is removed and there is only one Cylinder left in the Stand.
- C C—Screw Clamps for securing Cylinders in position.
- D—Outlet Nipple.
- E—Pull Cable.
- F—Foot Lever.
- G K—Gas Key.

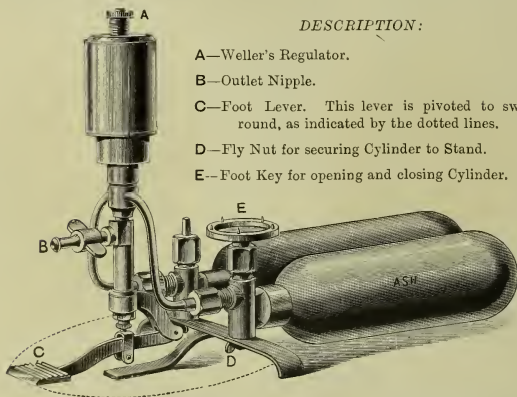
GAS STAND WITH WELLER'S REGULATOR,

Etc.—*continued.*

	£	s.	d.
Stand, as illustrated, minus Cylinders	5	5	0
The same with brass upright and hooks for supporting Facepiece, etc.	5	15	0
Stand, as illustrated, but for two Cylinders Nitrous Oxide Gas and one Cylinder Oxygen	6	15	0
The same with brass upright and hooks for supporting Facepiece, etc.	7	2	6

DIRECTIONS FOR USING WELLER'S GAS REGULATOR:

To obtain a slow flow of gas, unscrew knob **A** on Regulator to its full height, and then turn it downwards one thread. From this point the flow can be increased to any extent, within the range of the Regulator, by a further screwing-down action.

GAS STAND FOR ANGLE CYLINDERS, WITH
WELLER'S REGULATOR AND FOOT LEVER.*DESCRIPTION:***A**—Weller's Regulator.**B**—Outlet Nipple.**C**—Foot Lever. This lever is pivoted to swing round, as indicated by the dotted lines.**D**—Fly Nut for securing Cylinder to Stand.**E**—Foot Key for opening and closing Cylinder.

	£	s.	d.
Stand, as illustrated, with Spanner, minus Cylinders	4	10	0

This Stand and the Stand shown on pages 13 and 15 are strongly recommended for giving continuous gas by the nasal method.

GAS CYLINDER STAND WITH REDUCING VALVE.

(WELLER'S.)

By means of the **Reducing Valve RV** on this Stand a gradual flow of gas is obtained on pressure being applied to the Foot Lever **F**.

The flow can be regulated by the adjusting nuts **D** and **FLN**.

There must always be an eighth of an inch of play at **X**, *i.e.*, between the top of the slot on the Base and the Foot Lever.

DESCRIPTION :

A—Nozzle for Gas Union.

B—Lever Attachment.

C—Adjustable Attachment to pressure (or main) spring.

D—Lever Adjusting Nuts for regulating the lifting of valve **E**.

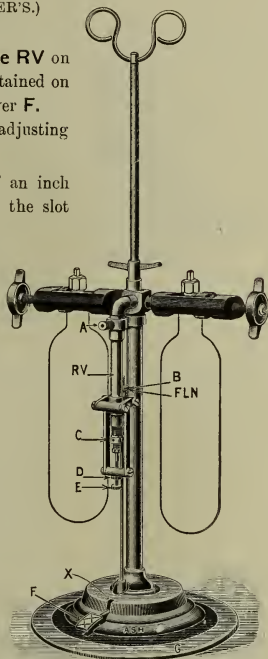
E—Valve Rod.

F—Foot Lever.

X—Slot in which Foot Lever Works.

RV—Reducing Valve.

FLN—Foot Lever Adjusting Nut for the lifting of the Foot Lever.

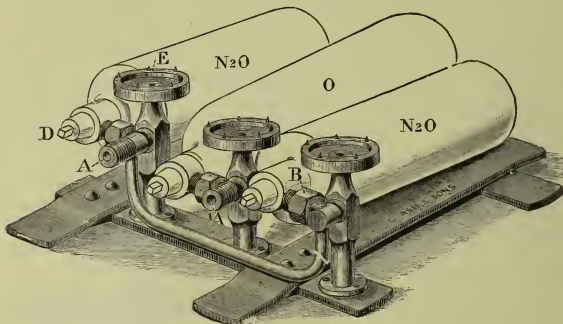


(Patent applied for.)

	£	s.	d.
Stand complete, as illustrated, without Gas Cylinders	5	2	6
The same, minus Upright	4	12	6
Stand, as illustrated, but for two Cylinders Nitrous Oxide Gas and one Cylinder Oxygen	6	10	0
The same, minus Upright	6	0	0

TRIPLE GAS CYLINDER STAND.

FOR TWO NITROUS OXIDE AND ONE OXYGEN CYLINDERS.
(WELLER'S.)



DESCRIPTION:

A—Outlet for the Nitrous Oxide from the two Cylinders marked N_2O . The corresponding part in the middle of the Stand shows the Oxygen outlet.

B—Male Tap on Cylinder showing how each of the three Cylinders is secured to the Stand.

D—Tap on each Cylinder by means of which the Gas is released from the Cylinders.

E—Foot Key on each Cylinder for admitting the Gas into the Cattlin's Bags. This Foot Key also fits the tap D.

Stand, Lacquered, with three Foot Keys and Spanner, minus £ s. d.

Cylinders 2 10 0

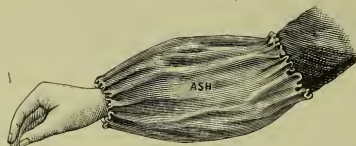
Ditto, Nickel-plated, ditto ditto ditto . . . 2 17 6

The same with Pillar and Spirals 3 3 0

" " " Nickel-plated 3 12 0

MACINTOSH SLEEVE.

FOR USE DURING OPERATIONS, DISSECTIONS, Etc.



The illustration shows it on the arm and near enough to the hand to protect the cuff as well as the end of the sleeve of the coat.

PRICE		s.	d.
	each	1	6
"	per pair	3	0

VERTICAL TWIN GAS CYLINDER STAND.

(SPURGE'S.)

(REGISTERED. Reg. No. 442,724.)

Those Anaesthetists who prefer a vertical to a horizontal stand will find Spurge's, here illustrated, extremely convenient and portable. It is provided with support for Cattlin's bag, hand regulating keys, and double union.

ADVANTAGES:

1. It is strong in construction, rigid in use, durable in wear, and light in weight.
2. The efficient clamping arrangement with which it is provided permits of cylinders being quickly mounted and unmounted, with the least possible exertion.
3. It occupies very little floor space.

	£	s.	d.
Complete without Gas Cylinders . . .	2	18	0
„ all parts Nickel-plated . . .	3	3	0
The same for three Cylinders—two Nitrous Oxide and one Oxygen . . .	4	0	0

HEMP BAGS.

FOR HOLDING GAS CYLINDERS.

For the conveyance of Nitrous Oxide Cylinders and Oxygen Cylinders these Hemp Bags are very convenient and considerably lighter than wooden boxes. They are extremely strong, and will last a long time in use. Both full and empty Cylinders will carry safely in them.

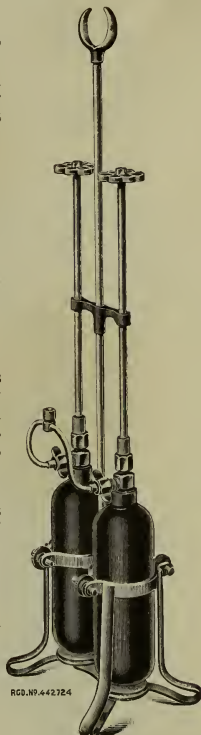
In forwarding Cylinders to us, a tie-on label, bearing the sender's name and address as well as our own, should be fastened round the neck of each Bag, and, in addition, we should be advised by post of their dispatch, so that we may know to whom each Cylinder belongs in case the tie-on label gets torn off the Bag in which it is packed.

The Bags are supplied in two sizes, as under:—

	Small, 14 × 3½ inches, for	s.	d.
50-gallon size Cylinders . . .	each	4	6
	Large, 18 × 4 inches, for	s.	d.
100-gallon size Cylinders . . .	„	4	9

For Wooden Cases, see page 128.

K

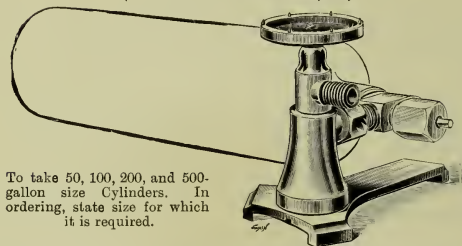


C

PEDAL ATTACHMENT.

(SPURGE'S.)

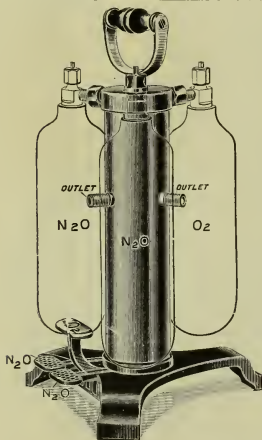
(REGISTERED. REG. No. 319,712.)



To take 50, 100, 200, and 500-gallon size Cylinders. In ordering, state size for which it is required.

It is claimed that this Attachment is the strongest yet introduced. It is neat and elegant in appearance, more rigid in position than any other, comparatively light, and most durable.

	£	s.	d.
Attachment, Lacquered, with Foot Key and Spanner . . .	1	1	0
„ Nickel-plated, with Foot Key and Spanner . . .	1	5	0

**TRIPLE
GAS CYLINDER STAND.**

(SPURGE'S.)

This Stand is arranged for two one-hundred-gallon size Nitrous Oxide Gas Cylinders and one thirty-gallon size Oxygen Cylinder, and is fitted with separate pedal valves, each of which gives independent control.

The coupling for the Oxygen Cylinder is at the back of the Stand, and its outlet is on the right-hand side.

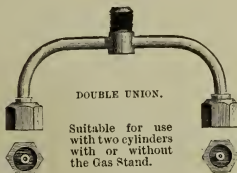
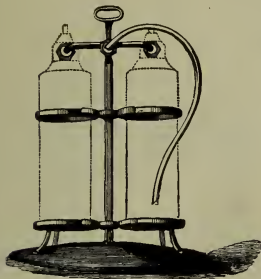
The couplings for the Nitrous Oxide Cylinders are towards the front of the Stand, and the outlet, which is common to both Cylinders, is above the pedals.

PRICE of Stand, Japanned, bright parts Nickel-plated, with Spanner	£	s.	d.
The same with Pillar and Spirals	4	10	0
	5	2	6

GAS CYLINDER STAND.

FOR TWO 50 OR TWO 100-GALLON
SIZE CYLINDERS.

(NAPIER'S.)



	£	s.	d.
Stand with Double Union	1	10	0
The same with Pillar and Spiral	2	0	0
Double Union... ..	0	8	6
Long Gas Key	0	5	6

In ordering, state whether the Stand and Union are required for 50 or 100-gallon size Cylinders.

STAND.

FOR 500-GALLON SIZE GAS CYLINDER.

(SPURGE'S.)

Simple in construction and very
strong.

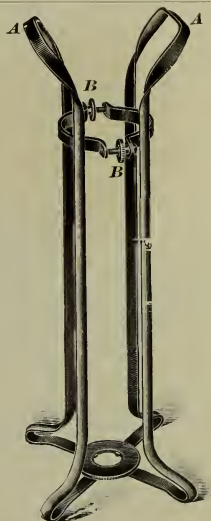
DESCRIPTION:

A A—Handles for lifting Stand.

B B—Clamping Screws for securing Cylinder
in Stand.

Stand as illustrated :—

	£	s.	d.
Painted Black . . .	1	10	0
„ Aluminium . . .	1	14	0

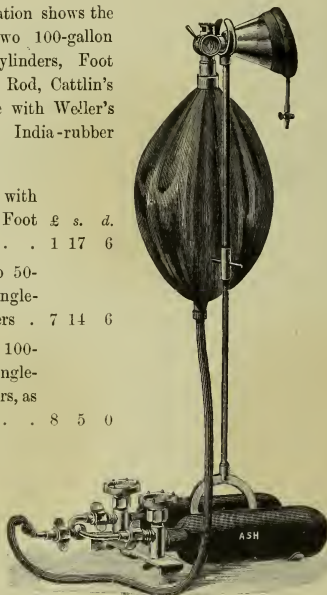


TWIN STAND FOR ANGLE GAS CYLINDERS.

(SPURGE'S.)

The illustration shows the Stand with two 100-gallon size Angle Cylinders, Foot Keys, Upright Rod, Cattlin's Bag, Facepiece with Weller's Stopcock and India-rubber Tubing.

Twin Stand with			
Upright and Foot	£	s.	d.
Keys only . .	1	17	6
Ditto with two 50-			
gallon size Angle-			
type Cylinders .	7	14	6
Ditto with two 100-			
gallon size Angle-			
type Cylinders, as			
illustrated . .	8	5	0



INDIA-RUBBER TUBING.

		s.	d.
Small red, very thick, best quality . . .	per foot	1	0
Covered with worsted, wired inside . . .	"	1	6
" " smooth " . . .	"	2	9

FACEPIECES.

FIG. 1.

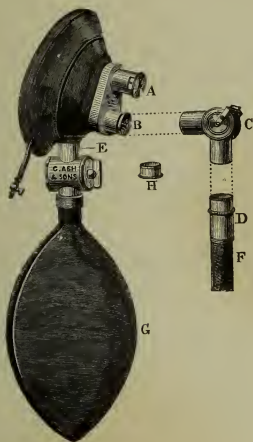


FIG. 2.

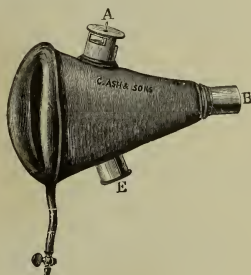


FIG. 3.

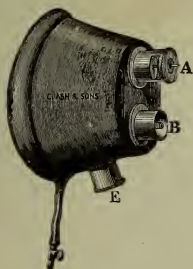
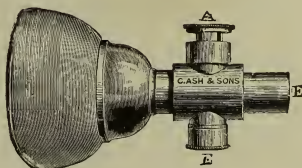


FIG. 4.



FACEPIECES—*continued.*

DESCRIPTION:

- A—Expiratory Valve.
 B—Inspiratory Valve.
 C—Two-way Stopcock for connecting Facepiece with Gas-Bag, or Gasometer.
 D—Mount attached to Worsted-covered Tubing.
 E—Mount for holding either an Ether or a Supplemental Bag.
 F—Worsted-covered Tubing leading to Gas-Bag, or to Gasometer.
 G—Supplemental Bag.
 H—Cap to cover Mount when the Supplemental Bag is not used.

FACEPIECES.

		s.	d.
Fig. 1. (Clover's) with Mount E, large, medium, or small	each	20	0
" 1. " without " " " "	"	18	6
" 2. Funnel-shaped, with " " " "	"	20	0
" 2. " without " " " "	"	18	6
" 3. Flexible, with " " " "	"	20	0
" 3. " without " " " "	"	18	6
" 4. American pattern, with Dr. Redman's improvements, with or without Mount E		27	0

The Rubber Cup of this Facepiece can be removed for cleaning.

Facepieces with stuffed pads—

For hot climates, minus Mount E	each	18	6
" " with " " " " " " " "	"	20	0

Facepieces Figs. 1, 2, 3 and 4 may be had to order with the metal parts nickel-plated instead of lacquered, at an extra cost of each 2 6

FACEPIECE PADS, Etc.

		s.	d.
Pads, best sheet rubber, with Tap, for Fig. 1 Facepieces	each	6	0
" " " without Tap, " " " "	"	4	9
" " " with Tap, for Celluloid " any kind " " "	"	5	6
" " " without Tap, " " " "	"	4	3
Stuffed Facepiece Pad, best sheet rubber, for hot climates	"	5	6
Two-way Stopcocks—C, Lacquered	"	6	0
" " " Nickel-plated	"	7	6
Mount D for Worsted-covered Tubing, Lacquered	"	1	3
" " " Nickel-plated	"	1	6

ARTICLES (VARIOUS).

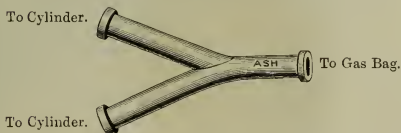
Mount with Stopcock for Supplemental Bag.

	<i>s.</i>	<i>d.</i>		<i>s.</i>	<i>d.</i>
In Brass, Lacquered,	7	0	; Nickel-plated,	8	0

Single Union for Cattlin's Bag.

	<i>s.</i>	<i>d.</i>		<i>s.</i>	<i>d.</i>
In Brass, Lacquered,	3	0	; Nickel-plated,	3	6

UNION FOR GAS CYLINDERS.

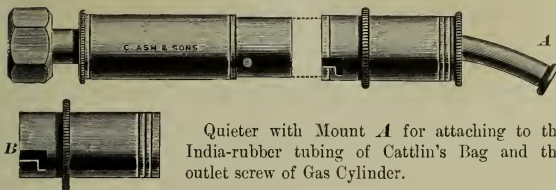


HALF SIZE.

Two Gas Cylinders, like the one shown on page 4, can be joined together by attaching short lengths of India-rubber tubing to their outlet valves *A*, and slipping the free ends over the two tubes marked "To Cylinder" of the Y-shaped union here illustrated.

	<i>s.</i>	<i>d.</i>
PRICE of Union, in Lacquered Brass	3	0
" " Nickel-plated	3	9

GAS QUIETERS.



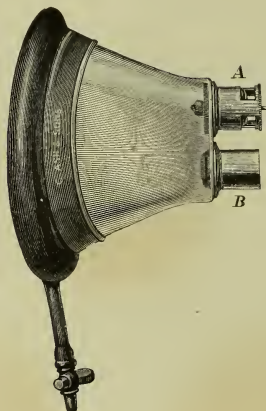
Quieter with Mount *A* for attaching to the India-rubber tubing of Cattlin's Bag and the outlet screw of Gas Cylinder.

	<i>s.</i>	<i>d.</i>		<i>s.</i>	<i>d.</i>
In Brass, Lacquered,	9	0	; Nickel-plated,	10	6

Quieter with Mount *B* in place of mount *A* for attaching to Cattlin's Bag when it is fitted with worsted-covered tubing instead of small India-rubber tubing.

	<i>s.</i>	<i>d.</i>		<i>s.</i>	<i>d.</i>
In Brass, Lacquered,	8	0	; Nickel-plated,	9	0

ASH'S CELLULOID FACEPIECES.



Celluloid Facepieces have met with so much favour that they are now used in all parts of the world.

The various forms in which they are made are stronger and much more durable than the pure rubber Facepieces hitherto supplied.

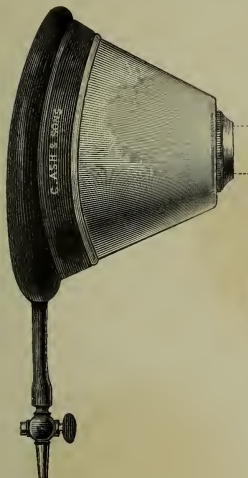
	<i>s.</i>	<i>d.</i>
Facepiece with Valves	22	6

Celluloid Facepieces without Valves, for Dr. Hewitt's

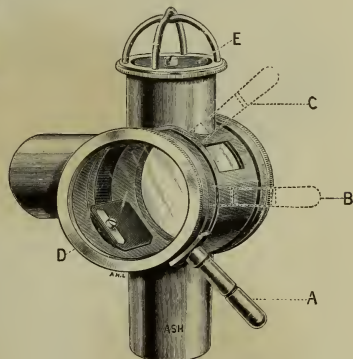
Three-way Stopcock (pages 88-90), also for Weller's

Aseptic Stopcock (page 25)	each	13	6
--------------------------------------	------	----	---

CELLULOID FACEPIECE AND WELLER'S ASEPTIC THREE-WAY STOPCOCK.



Facepiece.



Three-way Stopcock—natural size.

The illustration of the **Stopcock** shows its construction so clearly that little description of it is needed.

When the handle is set in the lowest position at **A**—marked “Air”—the patient breathes pure air; when at **B**—marked “Valves”—nitrous oxide; and when at **C**—marked “To-and-fro”—he continues to breathe into and from the Cattlin's Bag without the addition of either fresh air or nitrous oxide.

The inside of the stopcock can be readily and thoroughly cleansed by unscrewing the rim on the opposite side to **D**. When in use the action of the shutter can be seen through the celluloid discs which are fixed in the two rims. The expiratory valve is shown at **E**.

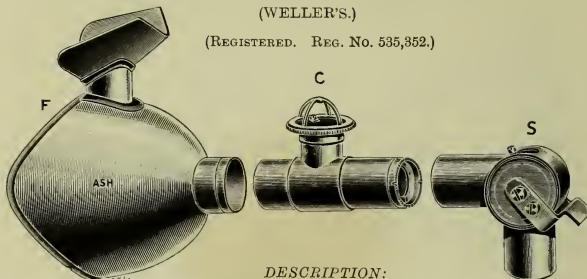
To dismount, unscrew the milled rim on opposite side to **D** and withdraw the inner portion. It is now possible to examine and clean all the parts; moreover, they can as easily be replaced as removed. Owing to its simple construction and the facility with which it can be taken to pieces and put together again the Anæsthetist is enabled to keep it in a perfectly wholesome condition with very little trouble or loss of time.

	£	s.	d.
Celluloid Facepiece	0	13	6
Weller's Aseptic Stopcock	1	2	6

ALL-METAL ASEPTIC FACEPIECE.

(WELLER'S.)

(REGISTERED. REG. NO. 535,352.)

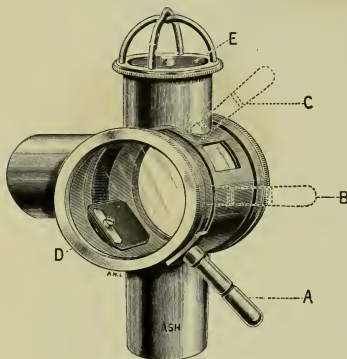


DESCRIPTION:

F—Facepiece.

C—Connection with Inspiratory and Expiratory Valves.

S—Two-way Stopcock.



Three-way Stopcock—natural size.

Perfect cleanliness can be ensured by the use of the Facepiece, Connection, and Stopcock here illustrated, since they can all be boiled in any suitable sterilising fluid. The mounts in which the valves are fitted can be drawn off the Connection **C** before it is put in the sterilising fluid, and replaced in a few moments after it has been cleansed.

This Three-way Stopcock can also be used with the Facepiece, and those Operators who already have it will not require the Connection **C** or the Two-way Stopcock **S** which are shown in the above illustrations.

DESCRIPTION:

When handle is at—

A—The patient breathes pure Air; at
B—Nitrous Oxide; at
C—To and from the Cattlin's Bag.

D—Removal Rim.**E**—Expiratory Valve.

	£	s.	d.		£	s.	d.	
All-Metal Aseptic Facepiece F , Nickel-plated	1	0	0	} Complete	2	0	0	
Connection C , Nickel-plated	0	12	6					
Two-way Stopcock S	0	7	6					
All-Metal Aseptic Facepiece F , Nickel-plated	1	0	0	} Complete	2	2	6	
Three-way Stopcock	1	2	6					
Leather Cases to hold either of the above Outfits					extra	0	4	0

WELLER'S STOPCOCK, WITH REGISTERED VALVE SEAT.

(REG. No. 539,814.)

DESCRIPTION:

HANDLE—When the Handle is set at **AIR**, only air is given; when the Handle is set at **GAS**, only gas is given; when the Handle is moved to **NO VALVES**, the valves are thrown out of action and a clear passage is obtained for to-and-fro breathing.

E—Expiratory Valve.

AIR—Orifice through which more or less air is mixed with the N_2O by adjusting the Handle between Air and Gas.

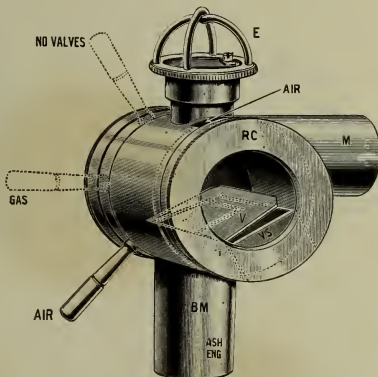
RC—Removable Screw Cap.

M—Mount to Facepiece.

V—Inspiratory Valve.

VS—Valve Seat.

BM—Mount to Gas Bag.



Weller's Stopcock is so designed that definite mixtures of Nitrous Oxide Gas and Air can be given at will by the Anaesthetist, in just the same way as fixed proportions of gas and oxygen can be administered with the Gas and Oxygen Apparatus.

In this respect the Stopcock is a decided advance upon every previous form of Nitrous-Oxide-and-Air Stopcock which has been introduced, and its merit will be appreciated by all practitioners who are called upon to employ it in the administration of anaesthetics, since it gives complete control over both the gas and the air, and it admits of the proportions of each being varied to suit the needs and condition of each patient.

The method of mixing the gas and air is very certain, for, however much the gas bag may be distended, as the gas valve is lifted by inhalation the current of air flows in with the gas and is mixed to any given percentage required; further, no premature mixing can take place during exhalation.

	£	s.	d.
Stopcock complete as illustrated	1	10	0

FACEPIECES WITH PATENTED COMBINATION STOPCOCKS AND VALVES.

(BARTH'S.)

FIG. 1.

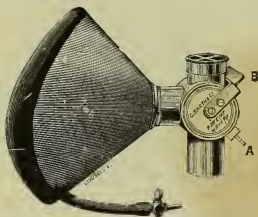
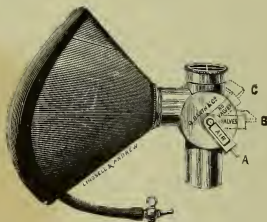


FIG. 2.



The following advantages are claimed for these Stopcocks and Valves :—

1. Simplicity.
2. Compactness.
3. Non-liability to get out of order.
4. Lightness.
5. Diminished cost.
6. Economy of gas when required.

The essential feature in the invention is this : The Valves, instead of being attached to the facepiece, are fixed in the stopcock, and are consequently available for any number of facepieces. A clear saving of expense is thus effected, which will be readily appreciated when it is stated that a new facepiece, as shown above without valves, costs rather less than half the amount of one with valves. These combined stopcocks and valves are made in two forms.

Fig. 1 has two movements. When the handle of the stopcock is placed at **A**, communication with the gas-bag is shut off, and air is admitted ; when the handle is placed at **B**, communication with the gas-bag is opened, and the gas is inhaled through the inspiratory valve, and exhaled through the expiratory valve.

Fig. 2 has three movements, two of which correspond with the two in Fig. 1—marked **A** (Air) and **B** (Valves) in the above illustration, Fig. 2. By raising the handle to **C** (marked No Valves) the valves are thrown out of action, and the gas is breathed from and re-breathed into the bag in just the same manner as when a supplemental bag is used with the old form of facepiece.

The Combination Stopcocks and Valves can be fitted to any form of Facepiece, but the two shown above, for which they are especially designed, are made of rubber, with fixed India-rubber pads.

FACEPIECES (BARTH'S)—*continued.*

	£	s.	d.
Fig. 1. Stopcock, Nickel-plated—minus Facepiece	1	0	0
" Lacquered Brass " " " " " " " "	0	18	6
Fig. 2. Stopcock, Nickel-plated—minus Facepiece	1	2	6
" Lacquered Brass " " " " " " "	1	1	0
If fitted with Barth's Improved Hair-spring Valves extra	0	2	0
Facepieces for Figs. 1 and 2 Stopcocks, large, medium or small, with Nickel-plated or with Brass mounts extra each	0	11	6
Celluloid Facepieces, " " " " " " "	0	13	6

FACEPIECE FOR ADMINISTERING AIR IN COMBINATION WITH NITROUS OXIDE GAS.

(INTRODUCED BY MR. C. CARTER BRAINE, F.R.C.S.)

Mr. Braine gives the following directions for administration :—Commence with all the holes covered, and after the patient has taken two, or perhaps three, inspirations of gas, and the gas-bag has become lax, turn on one or two of the air-holes. Do not allow the gas-bag to become distended, or very little, if any, air will enter through the perforations. Turn on more holes according to your patient's condition ; thus, children and anæmic women require more air, and the powerful adult less. Should too many holes be exposed, and the patient fail to become anæsthetised, then rotate the cap in the opposite direction and lessen their number.

It will be understood that air by this method is administered with the gas continuously, almost from the very commencement of the inhalation, and, speaking from my own experience, the results have, so far, been better than when the intermittent administration of air has been employed. When nitrous oxide with oxygen is not available, the administration of nitrous oxide and air will be found to yield the next best results in the great majority of dental cases.



A. Cap with slot.

B. Mount with six holes for admitting varying proportions of air.

PRICE of Facepiece	s.	d.
Air Caps similar to A B in above illustration can be fitted to ordinary Facepieces, Figs. 1, 2, 3 (see page 21), at an extra cost of each	23	6
	5	6

CATTLIN'S GAS BAGS.

In Black Sheet Rubber, Red Vulcanised Rubber, Light Check Material, and Waterproof Silk.

The light check Bags are useful for hot climates.

The silk Bags are made in three patterns, actual samples of which are here given. They are light, cleanly, attractive, durable, and quite suitable for all climates.

700 A.



700 B.



700 C.



All kinds—Rubber, Check, or Silk—same prices :

		£	s.	d.
Bags only—Three-gallon size	. . . . . each	0	15	0
„ Five „ „	. . . . . „	1	0	0
„ Seven „ „	. . . . . „	1	2	6

For Bags complete with Tubing, etc., see next page.

Supplemental Bags—see G, Fig. 1, page 21—are also made in the four kinds of material mentioned above.

		s.	d.
PRICE, any kind	. . . . . each	7	0
„ „ complete with Stopcock	. . . . . „	14	0

CATTLIN'S GAS BAGS.

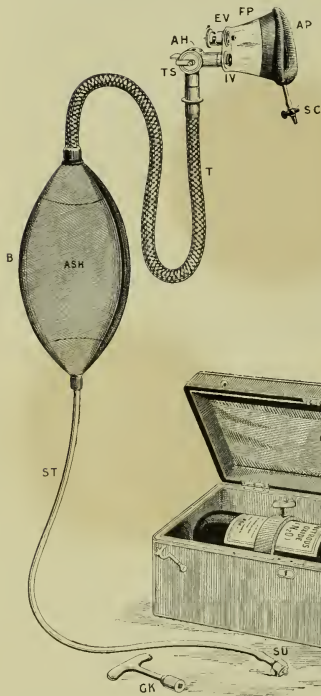
In Black Sheet Rubber, Red Vulcanized Rubber, Light Check Material, and Waterproof Silk, complete with Tubing and Mounts, in three, five, and seven-gallon sizes.

In ordering, please state the size required and also the material.

3-gallon size, with Nickel-plated Cage Mount for Three-way Stopcock, 5 ft. India-rubber Tubing, and Single Union, each	£	s.	d.
	1	5	0
3-gallon size, with Lacquered Mohair Mount for Two-way Stopcock, 2½ ft. Mohair Tubing, 2½ ft. small India-rubber Tubing, and Single Union each	1	7	0
3-gallon size, with Nickel-plated Cage Mount for Three-way Stopcock, 5 ft. small India-rubber Tubing, and Gas Quieter each	1	11	0
3-gallon size, with Lacquered Mohair Mount for Two-way Stopcock, two 2½-ft. lengths of Mohair Tubing, and Gas Quieter each	1	13	6
5-gallon size, with Nickel-plated Cage Mount for Three-way Stopcock, 5 ft. small India-rubber Tubing, and Single Union each	1	10	0
5-gallon size, with Lacquered Mohair Mount for Two-way Stopcock, 2½ ft. Mohair Tubing, 2½ ft. small India-rubber Tubing, and Single Union each	1	12	0
5-gallon size, with Nickel-plated Cage Mount for Three-way Stopcock, 5 ft. small India-rubber Tubing, and Gas Quieter each	1	16	0
5-gallon size, with Lacquered Mohair Mount for Two-way Stopcock, two 2½-ft. lengths of Mohair Tubing, and Gas Quieter each	1	18	6
7-gallon size, with Nickel-plated Mount for Three-way Stopcock, 5 ft. Tubing, and Single Union each	1	12	6
7-gallon size, with Lacquered Mount for Two-way Stopcock, 2½ ft. Mohair Tubing, 2½ ft. small India-rubber Tubing, and Single Union each	1	14	6
7-gallon size, with Nickel-plated Cage Mount for Three-way Stopcock, 5 ft. small India-rubber Tubing, and Gas Quieter each	1	18	6
7-gallon size, with Lacquered Mount for Two-way Stopcock, two 2½-ft. lengths of Mohair Tubing, and Gas Quieter each	2	1	0

ASH'S No. 1 PORTABLE GAS OUTFIT

FOR ANÆSTHETISTS WHEN VISITING.



DESCRIPTION:

- SC—Vulcanite Tap.
- AP—Air Pad.
- FP—Facepiece (Celluloid).
- EV—Expiratory Valve.
- IV—Inspiratory Valve.
- AH—Air Hole.
- TS—Two-way Stopcock.
- T—Tubing covered with
worsted.
- B—Cattlin's Bag.
- ST—Smooth Tubing.
- SU—Single Union.
- GK—Gas Key.
- S—Spanner.

In addition to the parts shown above and enumerated under Description, the Box here illustrated will hold a Cylinder of Gas as represented in it, with a second Facepiece, a set of Gags, etc.

ASH'S Nos. 1 and 2

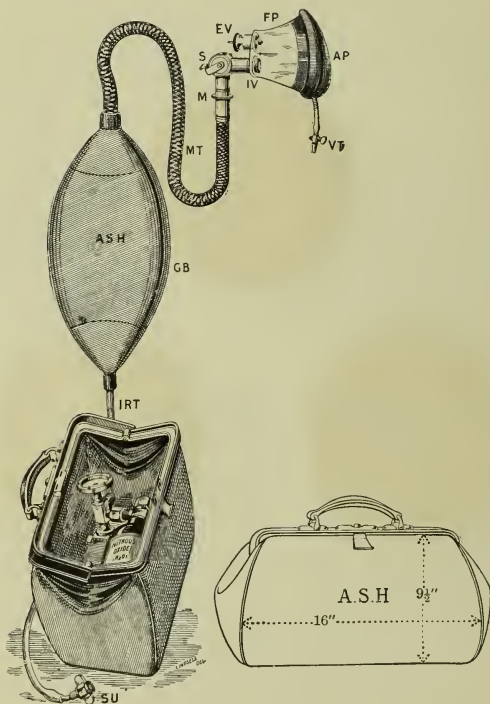
PORTABLE GAS OUTFITS

FOR ANÆSTHETISTS WHEN VISITING—*continued.*

No. 1 Outfit , as shown on the previous page, consisting of—			
Wrought-Iron or Steel Cylinder, containing 100 gallons of	£	s.	d.
Spurge's Gas	1	10	0
Gas Key	0	2	6
Spanner for attaching Union to gas cylinder	0	2	0
Cattlin's Bag to hold about 3 gallons, with Brass Mount,			
Tubing, and Union	1	5	6
Two Facepieces, large, medium, or small—Celluloid	2	5	0
Two-way Stopcock to connect Facepiece and Cattlin's Bag	0	6	0
Set of 3 simple Gags	0	4	0
Leather-covered Case ($16\frac{3}{4}$ by $6\frac{3}{4}$ inches), with Lock and Key,			
to hold all the above Apparatus	1	0	0
<hr/>			
Complete	£6	15	0

Alternative Outfit, No. 2 , consisting of—			
Wrought-Iron or Steel Cylinder, containing 50 gallons of	£	s.	d.
Spurge's Gas	1	5	9
Gas Key	0	2	6
Pedal Attachment for a single cylinder, with Spanner	1	1	0
Cattlin's Bag, to hold about 3 gallons, with Tubing, Brass			
Mount, Union, and Gas Quieter	1	11	0
Two-way Stopcock	0	6	0
Two Fig. 3 Facepieces, minus Mount E, large, medium, or			
small	1	17	0
Dr. Hewitt's Gag, medium size, in Aluminium, with lead pads	0	3	6
Mr. Braine's Tongue Forceps	0	6	6
Leather Hand-Bag, with Lock and Key, made of the best			
Cowhide, to hold the above Outfit	1	4	0
<hr/>			
Complete	£7	17	3

ASH'S No. 3
PORTABLE ANÆSTHETIC APPARATUS.



ASH'S No. 3 PORTABLE ANÆSTHETIC APPARATUS— *continued.*

Nitrous Oxide Gas Apparatus consisting of :—

	£	s.	d.
1 Celluloid Facepiece, large, medium, or small	1	2	6
1 Two-way Stopcock	0	6	0
1 Three-gallon Bag in black or red vulcanized rubber or in silk material, complete with Tubing and Mounts	1	7	0
1 One hundred-gallon Steel Cylinder, filled with Spurge's N ₂ O Gas	1	10	0
1 Pedal Attachment and Spanner	1	1	0
Leather Bag, with Lock and Key, to hold above	1	4	0
	£6	10	6

GAS CYLINDER SCALE,

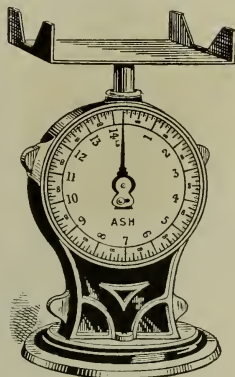
WITH WHITE ENAMELLED FACE.

Every user of Nitrous Oxide Gas will find this Scale valuable not only for checking the weight of full cylinders, but also for ascertaining the quantity of gas in partially full cylinders, at any given time, while they are in use.

A full cylinder has all the particulars of weight relating to it on the label which it bears, and these particulars can at all times be utilised for estimating the quantity of gas in the cylinder, until it is empty.

Directions for dealing with a partially full Cylinder.—Weigh it, deduct the tare from the gross weight, and fix the quantity of gas by reckoning three gallons to the ounce. This will not be strictly accurate, but it will be near enough for practical purposes.

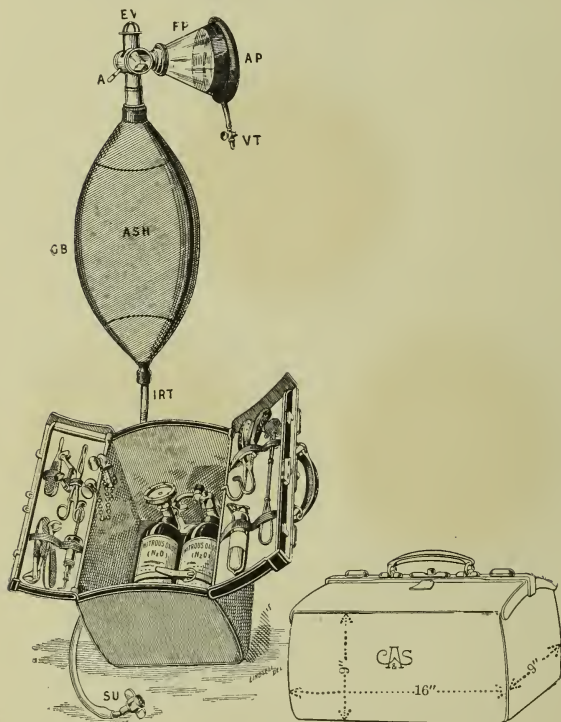
The Scale can be put to many other uses in the dental workroom.



Range 1 to 14 lbs., graduated in ounces.

Gas Cylinder Scale as illustrated	s.	d.
K	14	0
	D	2

ASH'S No. 4
PORTABLE ANÆSTHETIC APPARATUS.



ASH'S No. 4
PORTABLE ANÆSTHETIC APPARATUS—
continued.

Nitrous Oxide Gas Apparatus consisting of :—

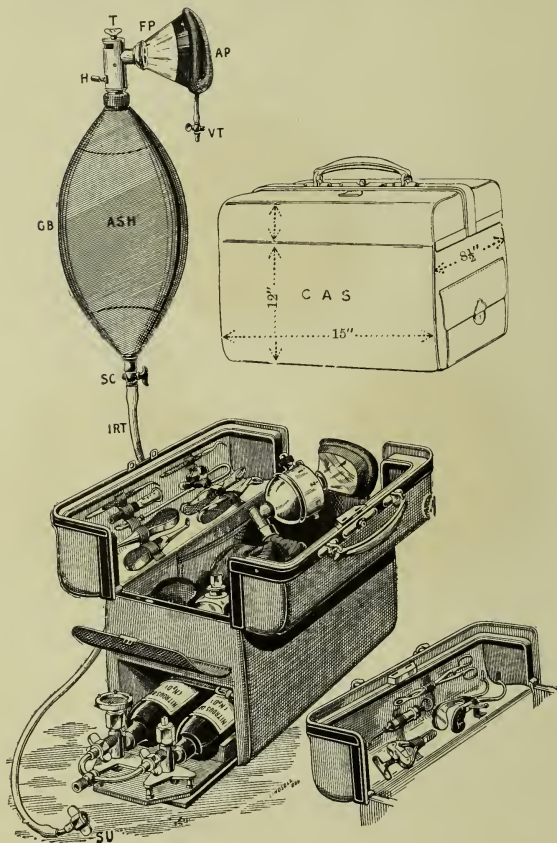
	£	s.	d.
1 Celluloid Facepiece, large, medium, or small	0	14	0
1 Aseptic Three-way Stopcock	1	2	6
1 Three-gallon Bag in black or red vulcanized rubber or in silk material, complete with Tubing and Mounts	1	5	0
2 Fifty-gallon Steel Cylinders filled with N ₂ O Gas, Angle type @ £1 7s. 9d.	2	15	6
1 Angle Stand complete with Double Union, two Fly-Nuts, and Circular Foot Key	1	5	0
1 set Gags with removable Lead Tops, connected with Silver Chain	0	13	6
1 Tongue Forceps	0	10	6
1 Brunton's Gag	0	6	6
1 Read's Elevator	0	6	0
2 Forceps @ 10s. 0d.	1	0	0
1 Hunt's Syringe	0	7	6
1 Sponge Holder	0	1	6
1 Fergusson's Gag	0	16	6
1 Sixty-gramme Tube Kélène, Local	0	3	9
1 Black Cowhide Domed Top Bag, with Lock and Key, to hold above	2	5	0

£13 12 9

Black Cowhide Domed Top Bag, to hold two 25-gallon
size Cylinders £ s. d.
1 15 0

Black Cowhide Domed Top Bag, Kit pattern, to hold
two 25-gallon size Cylinders 1 5 0

ASH'S No. 5 PORTABLE ANÆSTHETIC APPARATUS.

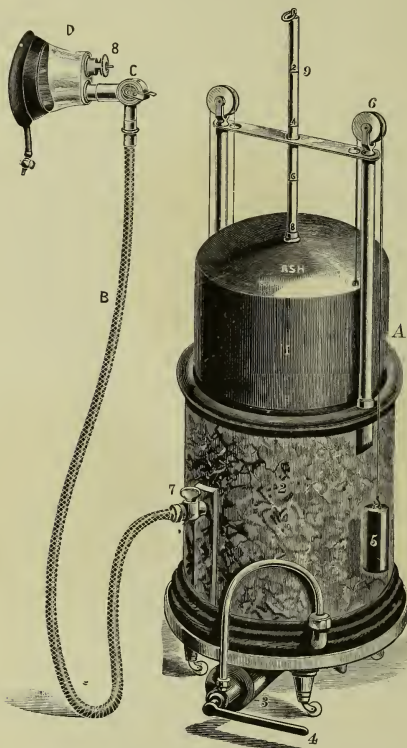


ASH'S No. 5
PORTABLE ANÆSTHETIC APPARATUS—
continued.

Nitrous Oxide, Ether, and Ethyl Chloride Apparatus consisting of :—

	£	s.	d.
1 Celluloid Facepiece, large, medium, or small	0	14	0
1 Hewitt's Three-way Stopcock	1	10	0
1 Three-gallon Bag in black or red vulcanized rubber or in silk material, complete with Vulcanite Tap, Tubing, and Single Union	1	4	6
2 Fifty-gallon Angle Steel Cylinders filled with N ₂ O Gas, Angle type @£1 7s. 9d.	2	15	6
1 Angle Stand complete with Double Union, two Fly-Nuts, and Circular Foot Key	1	5	0
1 Celluloid Facepiece for Ether Inhaler	0	14	0
1 Hewitt's Ether Chamber	2	0	0
1 Ether Bag with Elbow Joint	0	10	0
1 Glass Measure with Rubber Tubing for Ethyl Chloride, etc.	0	1	6
1 set of Four Rubber Gags	0	5	4
2 Forceps @ 10s. 0d.	1	0	0
1 Sponge Holder	0	1	6
1 College Tweezers	0	4	0
1 Hospital Probe	0	2	0
2 Elevators @ 7s. 6d.	0	15	0
1 Buxton's Gag, All-Metal	0	16	6
1 Tongue Forceps with Aseptic Joint	0	10	6
1 Mouth Opener	0	12	6
1 Metal Syringe	0	5	0
1 Black Cowhide Kit-Bag, fitted with separate compartment for Cylinders, with Lock and Key, to hold above . . .	2	15	0
	£18	1	10
	<hr/>		
		s.	d.
Anhydrous Anæsthetic Ether per pint	7	0	
Ethyl Chloride (General) per tube	4	0	

ASH'S GASOMETER OUTFITS, FOR USE IN THE OPERATING ROOM.



A—Gasometer complete.

B—Worsted-covered Tubing leading from Facepiece, etc., to Gasometer.

C—Two-way Stopcock connecting Facepiece with Worsted-covered Tubing.

D—Celluloid Facepiece with movable India-rubber Pad.

E—Supplemental Bag attached to Facepiece.

1—Drum of Gasometer.

2—Water Holder.

3—Gas Cylinder.

4—Key for releasing the Gas.

5—Weights for raising the Drum.

6—Pulleys and brass Uprights.

7—Outlet Tap of Gasometer.

8—Expiratory Valve of Facepiece.

9—Centre brass Indicating Rod.

ASH'S GASOMETER OUTFITS—*continued.*

The Gasometer shown on the previous page is made expressly for holding Nitrous Oxide Gas to be used in the Operating Room. It is illustrated with all the necessary parts attached that are required to make it complete and ready for use. Before the Gas is admitted, the Drum (No. 1) should be pressed down as far as it will go, and the Water Holder (No. 2) should be filled with pure water up to within about an inch of the top. The water requires renewing about every two months.

The centre brass rod, which is divided into intervals of 2 gallons each, indicates the quantity of Gas in the Gasometer at any given time. To ensure having sufficient for each operation, the Gasometer should be filled for each patient.

When the Gas Cylinder is empty, it can be replaced by a full one in a few minutes.

Gasometer, made of zinc and tastefully japanned in	£	s.	d.
imitation of marble, to hold 8 gallons of Gas	6	0	0
Cylinder containing 100 gallons of Coxeter's, Clarkson's,			
or Spurge's Liquid Gas.	1	10	0
Gas Key	0	2	6
Six feet of India-rubber Tubing, $\frac{3}{4}$ inch diameter,			
covered with worsted and wired inside	0	9	0
Two-way Stopcock in lacquered brass	0	6	0
Mount for upper part of worsted tubing	0	1	3
Two Celluloid Facepieces, large and medium	2	5	0
Set of Gags, three sizes	0	4	8
Spanner	0	2	0
Complete	£10	19	9

	£	s.	d.
Gasometer only, 12-gallon capacity.	6	10	0
„ Outfit complete, 12-gallon capacity	11	9	9

Either size Gasometer fitted with two sets of rings			
underneath for holding two cylinders of Gas, and			
bent pipe with double union for connecting them,			
at an extra cost of	1	7	6

The Apparatus can be varied to any extent that may be desired.

ANÆSTHETIC APRONS.

FIG. 1.



- Large Rubber Apron**, as used at the Royal Dental Hospital of London, to prevent the garments of patients being soiled during the administration of anæsthetics. The Apron is about 54 inches long by 34 inches wide, and is provided with weighted flaps which hang over the shoulders to keep it in position ; colour, black outside, light check inside . . (Fig. 1) each s. d.
12 0
The same, black both sides „ 15 0
- Rubber Apron**, 34 inches long by 33 inches wide, in red or black rubber—same form as Fig. 3 Apron. . . . each 8 6
- Rubber Apron**, 40 inches long by 36 inches wide, in brown rubber—same form as Fig. 3 Apron each 8 9
- Washable Rubber Apron**, brown holland colour, 32 inches long by 33 inches wide—same form as Fig. 3 Apron . . each 4 0
- Washable Rubber Apron**, brown holland colour, 40 inches long by 36 inches wide—same form as Fig. 3 Apron . . each 5 0

OPERATORS' APRONS.

IN FINE BLACK OR GREY CASHMERE.

FIG. 2.



Operator's Spring Apron, for protecting the coat while finishing and polishing fillings, or doing anything about the mouth which causes splashing. It is also equally useful for wear by the patient to protect the dress during operations.

Both kinds are neat and rich in appearance, wash well, and, like the Workroom Apron, Fig. 5, can be put on or removed in a few moments.

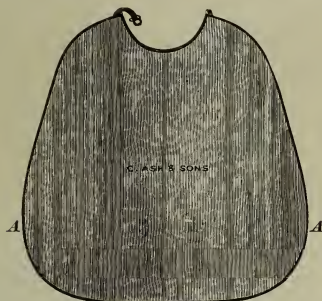
	s. d.
PRICE, either colour . . (Fig. 2) each	4 0

Operator's Spring Apron , same length as Fig. 5, Workroom Apron, either colour each	6 0
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In ordering, state whether black or grey is wanted.

PATIENTS' APRONS.

FIG. 3.



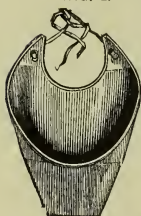
Length, 34 inches; width at **A A**, 32 inches.

The Rubber Apron here illustrated will be found most valuable for protecting the patient's dress during dental operations, for which purpose it has been specially designed. It is durable, light, neat in appearance, and can be as readily washed as a serviette.

	s. d.
PRICE each	3 9

PATIENTS' APRONS—*continued.*

FIG. 4.



Horton's Bib or Apron.—Improved form, with hook-and-eye fastening, instead of with tapes as shown in the illustration.

It is an excellent article for protecting the patient's dress during dental operations.

s. d.

In thick black Mackintosh . (Fig. 4) each 3 0

WORKROOM APRON,

UNIVERSAL, WITH SPRINGS.

There are no buttons to fasten on this Apron, and no strings to tie or untie; it can be slipped on or off in a moment, is very useful for general wear, but invaluable to the Dentist who spends a portion of his time in the workroom, and is as easily washed as a handkerchief after the springs **A B** are removed from the loops in which they are inserted.

Supplied in white, black, and check material. In ordering, please state colour required.

s. d.

Fig. 5, any colour . . . each 3 6

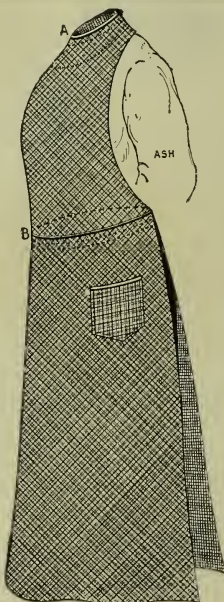


FIG. 5.

NASAL ANÆSTHETISER.
MUCH SIMPLIFIED AND IMPROVED.
(LENNOX'S.)

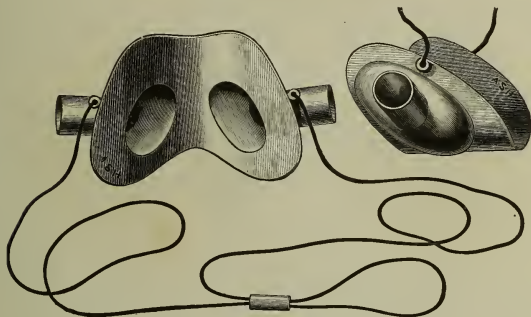
(Registered. Reg. No. 367,052.)

FOR PROLONGING NITROUS OXIDE GAS ANÆSTHESIA.

This new and improved form of Coleman's Anæsthetiser consists of a simple plate of metal shaped and bent so as to touch the lower surface of the nose closely all round the nostrils, and there only.

In the plate are two holes answering to the nostrils, and into these are inserted two metal tubes, half an inch long, for conveying nitrous oxide to the nostrils. Being wholly of metal, it is readily sterilised after each operation, and being only a plate, it may be readily bent to suit noses of peculiar formation. It is held in position under the patient's nose by a thin piece of elastic passing over the head of the patient, and adjusted to the head by means of a short tube sliding on the elastic.

FIG. 1.



Inside and Outside Views of the Nasal Anæsthetiser.

In this form of Anæsthetiser the softer parts of the nose act as pads, effectually preventing any passage of the gas during the operation except through the nostrils. The Anæsthetiser is consequently silent in action. It has the further advantages that it leaves the whole of the face exposed, allows the Operator to raise the upper lip to any extent he may find necessary, and also to work freely at the right lower jaw with hawk's-bill forceps in a way that the earlier form of Nasal Anæsthetiser did not admit of.

SIMPLIFIED AND IMPROVED NASAL ANÆSTHETISER (LENNOX'S)—*continued.*

The apparatus for conveying gas from the gas cylinder to this Anæsthetiser consists of a spiral copper tube, designed by Mr. S. A. Coxon, of Wisbech, connected directly with the cylinders, and immersed in a reservoir of boiling water. The gas, on leaving this coil, passes a two-way stopcock, one outlet of which leads to the ordinary bag and face-piece, while the other leads to a smaller bag and the Nasal Anæsthetiser.

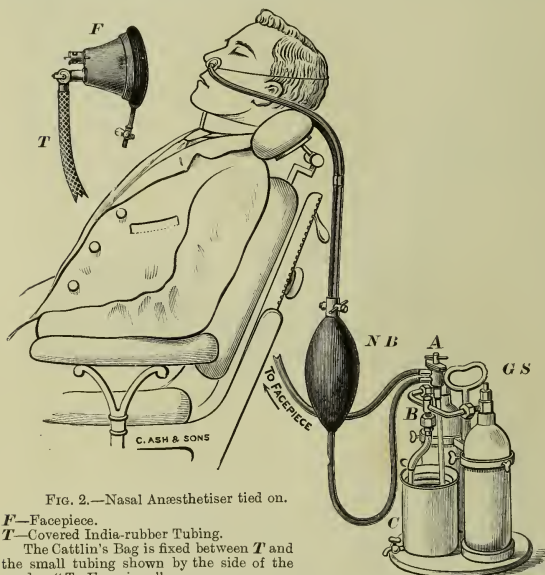


FIG. 2.—Nasal Anæsthetiser tied on.

F—Facepiece.

T—Covered India-rubber Tubing.

The Cattlin's Bag is fixed between **T** and the small tubing shown by the side of the words: "To Facepiece."

NB—Bag with Stopcock and India-rubbing Tubing leading from the Gas Cylinders to the Nasal Anæsthetiser.

A—Tap which controls the distribution of the Nitrous Oxide Gas. When set as shown in the illustration the Gas passes to the Nasal Anæsthetiser, and when set at right angles to this position it passes to the Facepiece.

B—Double Union; **C**—Mr. Coxon's Spiral Copper Tube in Reservoir for warming the Gas. Before an operation this Reservoir should be filled with boiling water.

GS—Napier's Gas Stand with Cylinders, etc., connected up ready for use.

SIMPLIFIED AND IMPROVED NASAL ANÆSTHETISER (LENNOX'S)—*continued.*

Fig. 2 shows the Apparatus ready for use. To prepare it for use connect the two Gas Cylinders to the Double Union, and Mr. Coxon's Tube **C** to same with the Single Union as shown at **B**, and fill the Reservoir **C** with boiling water. Then attach Tubing leading to the Facepiece to the upper Pipe near **A**, and the Tubing leading to the Nasal Anæsthetiser to the lower Pipe. Try on the Nasal Anæsthetiser as shown in the illustration, slip it back on to the forehead of the Patient, and, when ready for the administration, apply the Facepiece **F** and set the Tap **A** at right angles to the position shown in the illustration. When the Patient is anæsthetised, quickly remove the Facepiece, draw down the Nasal Anæsthetiser, place it over the nostrils without loss of time, and turn the Tap **A** to the position shown in the illustration.

Both the Cattlin's Bag—not shown in the illustration—and the small Nasal Bag **NB** should be filled before the administration is commenced.

By means of Mr. Coxon's Spiral Copper Tube **C** the Gas is kept at a comfortable temperature during prolonged operations.

Mr. LENNOX says: "In our own practice this method has entirely done away with the need for any other anæsthetic. We have cleared a mouth without pain, and it is an easy matter to accomplish any number of extractions with it. The patient is generally able to leave the house in twenty minutes or half an hour, feeling practically all right. The apparatus is a great success."

PRICES:

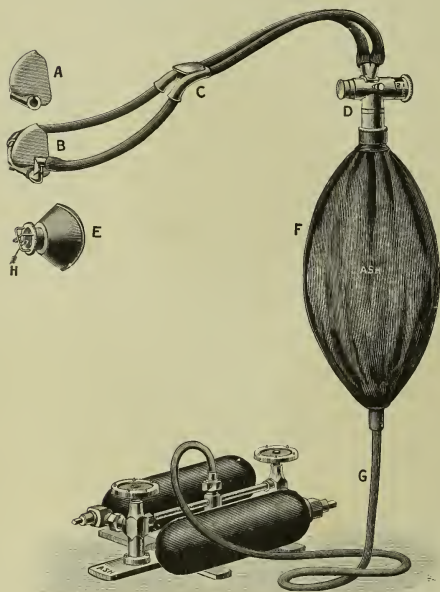
1 Napier's Twin Gas Stand, complete with Double Union (GS , Fig. 2)	£	s.	d.
2 Steel Cylinders containing 100 gallons of Gas	1	10	0
1 Single Union for connecting Coxon's Tube to Double Union.	0	3	0
1 Three-gallon size Cattlin's Bag, complete with exception of single union	1	2	6
1 Two-way Stopcock for connecting Facepiece with tubing of Cattlin's Bag	0	6	0
1 Celluloid Facepiece, large, medium, or small	1	0	0
1 Coxon's Copper Water Reservoir, with spiral tube and stop- cock; also one stopcock for connecting Nasal Bag NB with tubing leading from Gas Cylinder to Nasal Anæsthetiser; and with chain, etc.	2	4	0
1 Lennox's Nasal Anæsthetiser	0	10	0
8 feet Thick red India-rubber Tubing	0	8	0
1 Sliding Clip	0	0	6
1 Small Bag	0	3	9
1 Spanner for securing gas cylinder to double union, etc.	0	2	0
1 Gas Key	0	2	6

Complete £10 12 3

No. 1 ASEPTIC NASAL INHALER.

For prolonging Nitrous Oxide Anæsthesia in Dental
Operations.

(REGISTERED. Reg. No. 500,408.)



DESCRIPTION :

- A—Nosepiece disconnected.
- B—Nosepiece secured to the metal connections and India-rubber-conveying pipes.
- C—Sliding Clamp.
- D—Stopcock.
- E—Mouth Cover.
- F—Cattlin's Bag.
- G—India-rubber Tubing which leads to the union on the Gas Cylinders.

(It is here shown connected-up.)

No. 1 ASEPTIC NASAL INHALER—*continued.*

Briefly stated, the advantages of the No. 1 Nasal Inhaler are as follows :—

1. It is self-retaining, and thus affords freedom to the anaesthetist for inserting a gag or for helping the Operator in other ways.
2. The metal nosepiece is easily removed and cleansed, and the use of a rubber pad is avoided.
3. The stopcock allows of mixtures of gas and air being admitted to the inhaler, and its movements are perhaps simpler than the movements of those stopcocks which are fitted with various forms of taps.

No. 1 Nasal Inhaler, complete as illustrated, down £ s. d.
to, and including, the Single Union 3 12 6

(*The Cylinder Stand and Gas Cylinders are charged extra, if required.*)

<i>Separately :</i>	s.	d.
Nosepiece A , with lateral tubes	18	0
Stopcock D , with two inspiratory valves	16	0
Bag Mount	2	0
Metal Facepiece E , with removable expiratory valve .	14	0
Sliding Clamp C	5	0
India-rubber Tubing from Nosepiece to Stopcock .	3	6
Cattlin's Bag, 1½-gallon size, with 5 feet Tubing .	11	0
Single Union	3	0
Metal Facepiece, small extra	14	0

MANUFACTURING APPARATUS.

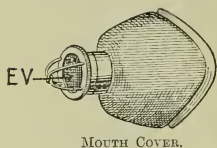
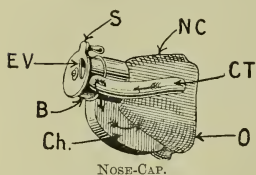
Outfits for manufacturing Nitrous Oxide Gas supplied to order.

Full working directions are sent with each Outfit.

Estimates furnished on application.

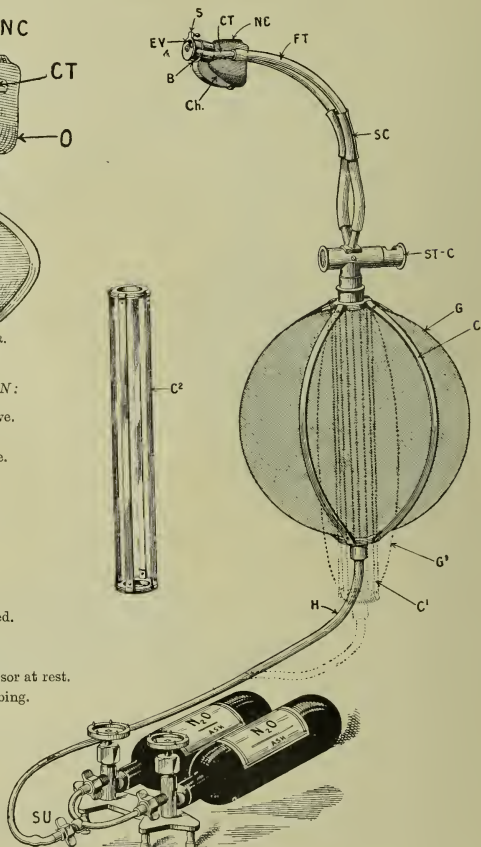
NOTE.—Special Terms are given to Dental and General Hospitals for Liquid Nitrous Oxide Gas in Steel Bottles.

No. 2 ASEPTIC NASAL INHALER (PATENTED).



DESCRIPTION:

- EV—Expiratory Valve.
 S—Shutter.
 CT—Conveying Tube.
 NC—Nose-Cap.
 FT—Flexible Tube.
 SC—Sliding Clamp.
 B—Body.
 Ch—Channel.
 ST-C—Stopcock.
 E—Bag Mount.
 G—Gas Bag distended.
 C—Compressor.
 G'—Gas Bag empty.
 C' and C²—Compressor at rest.
 H—India-rubber Tubing.
 SU—Single Union.



No. 2 PATENTED NASAL INHALER—*continued*.

The No. 2 Nasal Inhaler contains many valuable features which will appeal to the Anæsthetist.

It admits of in-and-out breathing through the nose.

The Nose-Cap is removable, and can therefore be sterilised for each patient. It is made in two forms to suit noses of different shapes—noses with wide bridges and with narrow bridges.

Air only, gas only, or gas and air can be administered by means of the Stopcock **ST-C**.

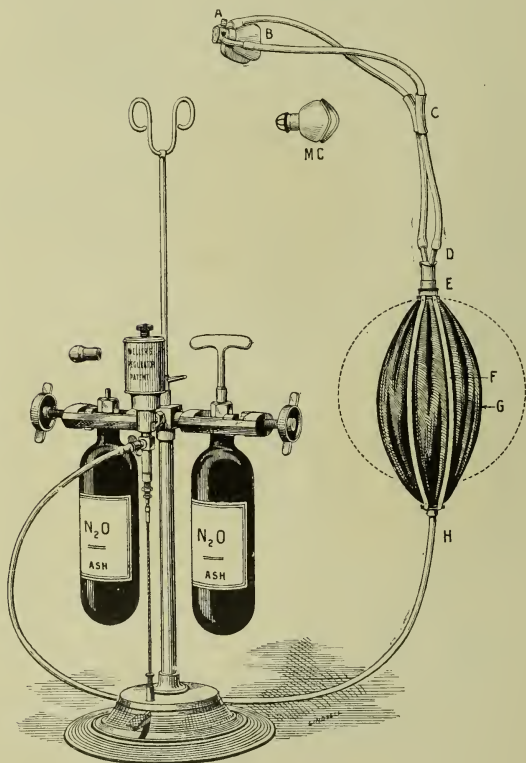
The automatic compression of the Bag is secured by the addition of Weller's Gas Bag Compressor.

No. 2 Nasal Inhaler, complete as illustrated, down to, and including, the Single Union £ s. d.
4 9 6

Separately:

Nose-Cap NC , with lateral tubes CT , Expiratory Valve EV , and Shutter S	1	2	6
Sliding Clamp SC	0	5	0
Two lengths of Tubing between the lateral tubes of Nose-Cap and Stopcock ST-C	0	3	6
Stopcock ST-C	0	16	0
Bag Mount E	0	2	0
Gas Bag Compressor C	0	8	6
Gas Bag G , 1½-gallon size, and 5 feet India-rubber Tubing H	0	15	0
Single Union SU	0	3	0
Mouth Cover	0	14	0
Small Mouth Cover extra	0	14	0
Stand, as illustrated	1	5	0
Two 100-gallon Cylinders filled with Nitrous Oxide Gas (33s. each)	3	6	0
K	E 2		

No. 3 ASEPTIC NASAL INHALER (PATENTED).



No. 3 PATENTED NASAL INHALER—*continued.*

The No. 3 Nasal Inhaler admits of **Air** or **Gas** being administered by the

In-and-out Method (*i.e.*, through the Nose), or by the

Nasal-Oral Method (*i.e.*, inspiring through the nose and expiring through the mouth).

The Anaesthetist has thus three valuable movements under complete control.

Air only is admitted when the Shutter **A** is open and turned to the right as far as it will go.

Nitrous Oxide is admitted when the Shutter **A** is open and turned to the left as far as it will go, and the patient will breathe it in-and-out through the nose.

For the Nasal-Oral Method, close Shutter **A** and turn it to the left as far as it will go. This will cause the patient to inhale through the nose and exhale through the mouth.

DESCRIPTION:

A—Nose-Cap Attachment with Stopcock for Air and Gas, and with Inspiratory and Expiratory Valves and Shutter.

B—Nose-Cap.

C—Sliding Clip on India-rubber Tabings.

D—Bifurcated Mount.

E—Bag Mount.

F—Gas Bag Compressor.

G—Gas Bag.

H—India-rubber Tubing.

MC—Mouth Cover. This is fitted with an expiratory valve, and should be used at the same time as the Nose-Cap. By using the two together patients are more quickly anaesthetised than they would be if only the Nose-Cap were used, and the Nitrous Oxide is economised.

The Mouth Cover should also be used in conjunction with the Nose-Cap with Coleman's Nos. 1 and 2 Nasal Inhalers.

No. 3 PATENTED NASAL INHALER—*continued.*

Complete as illustrated, minus Stand, Cylinders, and Gas £ s. d.

Key 4 6 6

*Separately :*Nose-Cap, complete with Attachment **A B** 1 15 6Sliding Clamp **C** 0 5 0Bifurcated Mount **D** 0 3 0

Two lengths of India-rubber Tubing from lateral tubes of

Nose-Cap to Bifurcated Mount 0 3 6

Bag Mount **E** 0 2 0Gas Bag Compressor **F** 0 8 6Gas Bag **G**, 1½-gallon size, with 5 feet India-rubber Tubing 0 15 0Mouth Cover **MC** 0 14 0

Stand minus Gas Key and Gas Cylinders 5 5 0

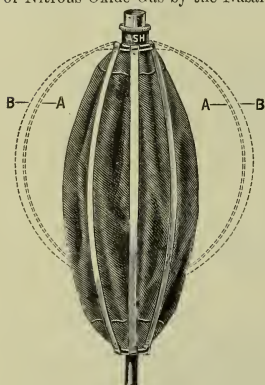
Gas Key 0 2 6

Two 100-gallon Cylinders filled with Gas . . . @ 30s. 3 0 0

WELLER'S GAS BAG COMPRESSOR.

(REGISTERED. REG. No. 551,883.)

Specially intended for the use of Anæsthetists during the administration of Nitrous Oxide Gas by the Nasal Method.



The Compressor consists of four thin metal strips which are secured to two rings on the outside of the Bag, the purpose of which is to exercise gentle compression on the Bag when it is inflated, and thus to ensure an equal and even flow of the gas from the Bag throughout the administration, without the need of the Bag being squeezed by the Anæsthetist.

It is made in various sizes for 1½, 2, and 3-gallon Bags; in ordering, be careful to state for which size Bag it is required.

To apply to a Gas Bag.—Drop the upper ring of the Compressor on to the Bag before fixing the mount marked “Ash” to the Bag, and then pass the rubber tube on the lower end of the Bag through the lower ring.

Compressor complete, for 1½-gallon Bag, without Bag . . . s. d. 8 6

NO. 4 ASEPTIC NASAL INHALER (PATENTED).

Summary of Advantages :

1. Comfort of patients secured by the expiratory valve on the nose-piece, owing to the freedom given to patients to expire through the nose and the mouth.
2. No necessity to instruct the patients *how* to breathe.
3. The gas-bag compressor enables the Anæsthetist to increase or diminish the pressure of gas at will, prevents over-distension of the bag, and exercises uniform pressure on it during the administration.
4. The stopcock gives the Anæsthetist full control over the admission of either air or gas or a mixture of the two.
5. The apparatus is self-retaining and affords liberty to the Anæsthetist, hence he is able to insert a gag or to assist the Operator in any other way that may be necessary.
6. The mouth cover serves as a reserve appliance for dealing with patients who cannot readily breathe through the nose.
7. The removable valves and the absence of a rubber pad render the apparatus cleanly in use.

Full description sent with each Inhaler ; it can also be had,
post free, on application.

No. 4 PATENTED NASAL INHALER—*continued*.

DESCRIPTION:

Combined Mouth Cover and Inhaler—

MI—Mouth Cover.

EV—Expiratory Valve.

N₂OL—Nitrons Oxide Lever.

RT—Rubber Tubing.

ICM—Inhaler Connection Mount.

Nose-Piece, etc.—

EV—Expiratory Valve.

G—Gas Bag distended.

B—Body.

G¹—Gas Bag empty.

Ch—Channel.

C—Gas Bag Compressor distended.

S—Shutter.

C¹, C²—Gas Bag Compressor at rest.

CT—Conveying Tubes.

H—Tubing to Gas Stand.

NC—Nose-Cap.

SU—Single Union connected to Gas Stand.

FT—Flexible Tubes.

SC—Sliding Clamp.

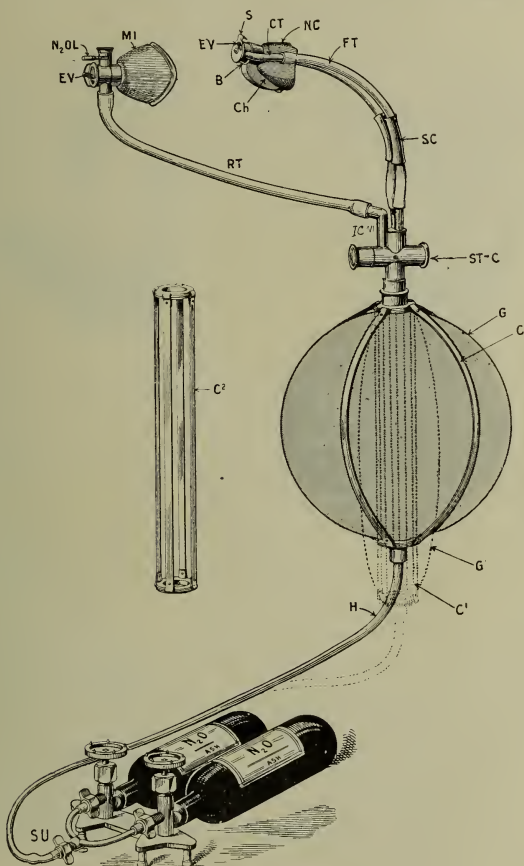
ST-C—Stopcock.

No. 4 Nasal Inhaler , complete as illustrated, down to, and including, the Single Union, but minus Gas Stand and Gas Cylinders	£	s.	d.
	5	7	6
Ditto ditto with Valve Seat Stopcock, but minus Gas Stand and Gas Cylinders.	5	10	0
Ditto ditto, but minus Mouth Inhaler Attachment, Gas Stand, and Gas Cylinders.	4	10	0

Parts separately:

Nose-Cap with lateral tubes	1	2	6
Two lengths of Tubing between the lateral tubes and Stopcock	0	3	6
Sliding Clamp	0	5	0
Stopcock with Bifurcated Mount and Valve Seat	1	2	6
Bag Mount	0	2	0
Gas Bag, 1½-gallon size, and 5 feet India-rubber Tubing	0	15	0
Mouth Inhaler with Patent Spring Stopcock	1	5	0
2½ feet India-rubber Tubing	0	4	3
Gas Bag Compressor	0	8	6
Single Union	0	3	0

No. 4 PATENTED NASAL INHALER—continued.



NASAL INHALER.

(Mr. F. HARRISON'S.)

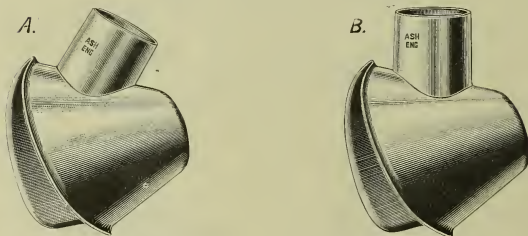


FIG. A—For use on patients in the sitting position.

,, B—For use on patients in the horizontal position.

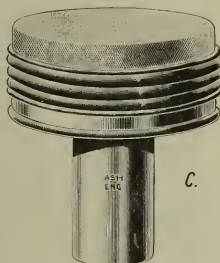
Mr. Harrison's Nosepiece is made to fit upon the three-way or two-way stopcocks of the ordinary Nitrous Oxide Gas Apparatus. This small addition to an anæsthetic equipment gives all the facilities required for Nasal Anæsthesia, since it combines the possibilities—

- 1—Of using Nitrous Oxide Gas only by means of the inspiratory and expiratory valves ;
- 2—Of respiration from and into the Gas Bag ;
- 3—Of direct under-pressure from the over-filled Gas Bag ;
- 4—Of commencing the anæsthesia with the ordinary Facepiece, by instructing the patient to breath through the nose ; and
- 5—Of removing the Facepiece from the valves during unconsciousness, substituting the Nosepiece and administering the Nitrous Oxide through the nose while the operation is proceeding.

HARRISON NASAL INHALER—continued.

The Nosepiece can also be fitted to the Receiver *C*, which contains lint pads and is covered with a sheet of lint for the nasal administration of chloroform, ether, or ethyl chloride.

The Nosepiece is carefully designed to fit most noses with accuracy, but for noses of extraordinary shape an India-rubber inflated pad may be added.



Receiver for Chloroform, Ether, or Ethyl Chloride.

			s.	d.
Nasal Inhaler for the sitting position . . .	(Fig. <i>A</i>)	each	4	6
„ „ „ horizontal position . . .	(„ <i>B</i>)	„	4	6
Receiver for Chloroform, Ether, or Ethyl Chloride („ <i>C</i>)	„	„	4	6
India-rubber Nosepad, with Tap	„	„	4	6



Two-thirds natural size.

BROWN GLASS BOTTLE,

WITH SPOUT AND GROUND
GLASS STOPPER.

Two-ounce size; inscribed “Local Anaesthetic.” For use in holding any local anæsthetic, and for pouring such portion of it as may be required into a glass measure, in readiness for being drawn into the syringe barrel.

	s.	d.
PRICE, as illustrated	1	6

IMPERIAL SYRINGES

NOS. 1 AND 2.

(See next page.)

The Imperial Syringes Nos. 1 and 2 are made to take
Imperial Nozzles with fixed Needles **D** and **E** ;
also the
Short and Long Mounts **A** and **B** for Schimmel's Needle **C**.

In ordering, care should be taken to state whether No. 1 or No. 2 Syringe is required, and also which style of Needle is wanted.

The following description and prices apply to both Syringes :—

DESCRIPTION:

Complete View—Syringe, Spanner, Cap, Mounts, and Needles.

A and **B**—Short and Long Mounts for carrying Schimmel's Needles.

C—Schimmel's Needle.

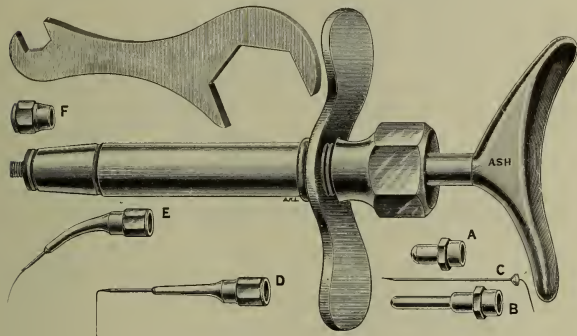
D and **E**—Straight and Curved Imperial Needles, complete with Mounts.

F—Cap for End of Syringe when it is not in use.

	s.	d.
Imperial Syringe and Spanner, with Plain Piston, minus Needles	6	0
Imperial Syringe, with Plain Piston, Spanner, and Needles D and E	7	0
Imperial Syringe and Spanner, with Graduated Piston, minus Needles	7	0
Imperial Syringe, with graduated Piston, Spanner, and Needles D and E	8	0
Imperial Needles, Straight or Curved, D and E . . . per doz.	5	0
Imperial Syringe, with Graduated Piston, Spanner, Mounts A and B , and 1 dozen Schimmel's Needles C	10	6
Imperial Syringe, with Plain Piston, Spanner, Mounts A and B , and 1 dozen Schimmel's Needles	9	6
Any of the above in Leather Case extra	3	0
Schimmel's Needles C , in tubes of 6 per tube	0	10
In lots of 12 tubes, <i>i.e.</i> , 6 dozen Needles per lot	8	6
Schimmel's Needles C , in pure Nickel, in tubes of 6 Needles per tube	1	9
In lots of 12 tubes, <i>i.e.</i> , 6 dozen Needles per lot	19	0
Mounts A and B separately each	0	6
Needle Washers and Packings for Imperial Syringe . . . per pkt.	0	7

IMPERIAL SYRINGE No. 1.

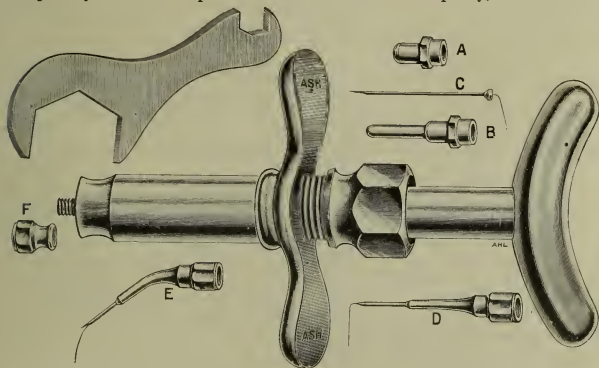
With Crutch Handle. Regular Form. Capacity, 40 minims.



IMPERIAL SYRINGE No. 2.

With Short Barrel and Thick Plunger.

Especially useful for Operators with short hands. Capacity, 40 minims.



IMPERIAL SYRINGES NOS. 3 AND 4.

(See next page.)

The Imperial Syringes Nos. 3 and 4 are made to take

Imperial Nozzles with fixed Needles **D** and **E** ;

also the

Short and Long Mounts **A** and **B** for Schimmel's Needle **C**.

In ordering, care should be taken to state whether No. 3 or No. 4 Syringe is required, and also which style of Needle is wanted.

The following description and prices apply to both Syringes :—

DESCRIPTION :

Complete View—Syringe, Spanner, Cap, Mounts, and Needles.

A and **B**—Short and Long Mounts for carrying Schimmel's Needles.

C—Schimmel's Needle.

D and **E**—Straight and Curved Imperial Needles, complete with Mounts.

F—Cap for end of Syringe when it is not in use.

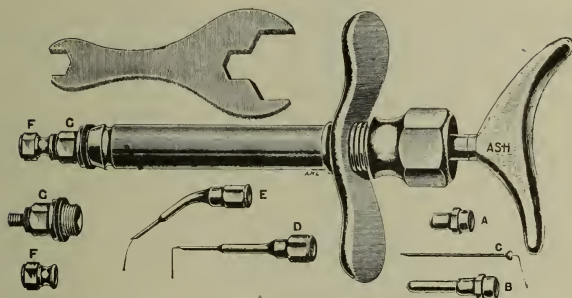
G—Removable End for receiving Nozzles.

	s.	d.
Imperial Syringe and Spanner, with Plain Piston, minus Needles	6	0
Imperial Syringe, with Plain Piston, Spanner, and Needles D and E	7	0
Imperial Syringe and Spanner, with Graduated Piston, minus Needles	7	0
Imperial Syringe, with Graduated Piston, Spanner, and Needles D and E	8	0
Imperial Needles, Straight or Curved, D and E . . . per doz.	5	0
Imperial Syringe, with Graduated Piston, Spanner, Mounts A and B , and 1 dozen Schimmel's Needles C	10	6
Imperial Syringe, with Plain Piston, Spanner, Mounts A and B , and 1 dozen Schimmel's Needles	9	6
Any of the above in Leather Case . . . extra	3	0
Schimmel's Needles C , in tubes of 6 . . . per tube	0	10
In lots of 12 tubes, <i>i.e.</i> , 6 dozen Needles . . . per lot	8	6
Schimmel's Needles C , in pure Nickel, in tubes of 6 Needles		
	per tube	1 9
In lots of 12 tubes, <i>i.e.</i> , 6 dozen Needles . . . per lot	19	0
Mounts A and B separately . . . each	0	6
Needle Washers and Packings for Imperial Syringe . . . per pkt.	0	7

IMPERIAL SYRINGE No. 3.

With Screw-off End **G** which admits of the barrel being fully opened at the nozzle end for cleansing and sterilising.

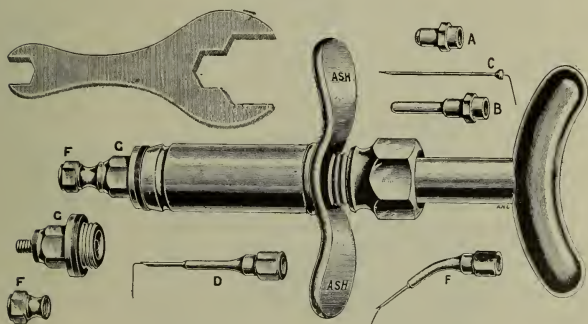
Capacity, 40 minims.



IMPERIAL SYRINGE No. 4.

With Short Barrel and Thick Plunger ; especially useful for Operators with short hands.

Capacity, 40 minims.



GUNTHORPE'S PATENTED HYPODERMIC SYRINGES, FIGS. 1 AND 2.

CAPACITY, 40 MINIMS.

Many dentists have expressed a desire for a Hypodermic Syringe which can be so worked as to take the strain off the thumb or the palm of the hand, and which will do away with the annoying experience of the needle being broken off short in the gum.

Injections into dense tissue frequently require from 15 to 50 lbs. pressure, and there is often great difficulty in keeping the needle steady while the necessary amount of force is exerted, without an undue proportion of it being applied to the needle, with the consequent risk of breakage.

Operators are well aware how troublesome the breakage of a needle is, how difficult it sometimes is to find the broken portion, and that occasionally it cannot be found at all.

Gunthorpe's Syringes are intended to prevent these troubles. They have been tested with the most satisfactory results, and the opinions formed of them may be summed up in the words of a dentist who writes as follows: "I find that great power and extreme steadiness are at the same time obtained; thus is made easy what has always been to me an awkward task."

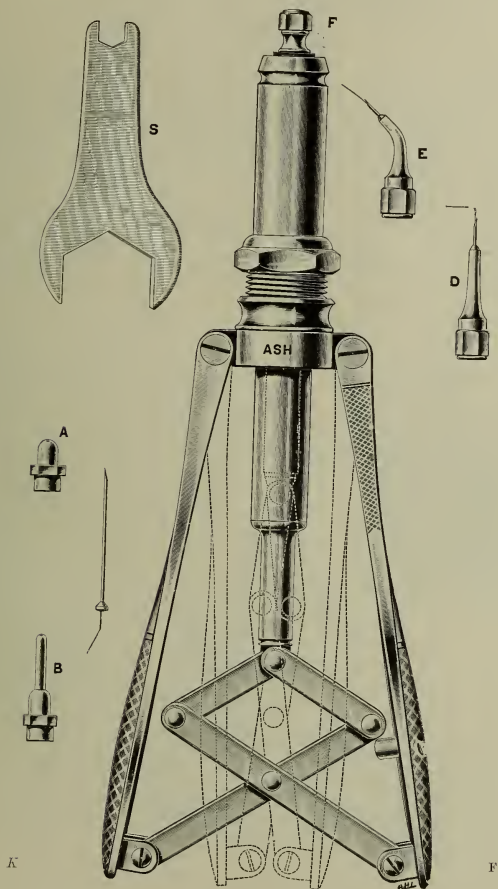
Fig. 1 is made with solid plunger, like the Imperial Syringe, but instead of the usual cross-bars it is provided with handles and a trellis arrangement for operating the plunger—*see illustration*. It is a powerful instrument, very easily controlled, and there is practically nothing about it to get out of order. Of the two forms this is the one which we recommend.

Fig. 2 is similar in construction to the All-Metal Syringe, and resembles Fig. 1 in the handles and trellis arrangement, but it is less powerful than Fig. 1. The plunger is graduated in minims from 5 to 40—*see illustration*.

For general work it will meet the requirements of those dentists who prefer an All-Metal to a Glass-Barrel Syringe.

Both Syringes are well suited for Mr. Parrott's method of alveolar injection, and for this special use Fig. 1 can be had with graduated piston.

GUNTHORPE'S FIG. 1 SYRINGE.

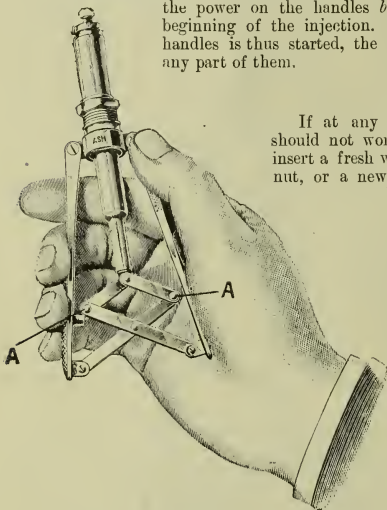


GUNTHORPE'S SYRINGES—*continued.**Instructions for Use :*

To fill.—Close the handles, sink the needle in the fluid, take hold of the end of each handle and draw them apart. This will fill the barrel.

Both Syringes should be held like an ordinary extracting forceps, with the thumb on the upper serrations of the right handle, the little finger on the extreme end of the left handle, and the other fingers as usual.

To inject.—Insert the needle in the gum as usual, commence to close the handles with the grip of the hand, and always bear in mind to apply the power on the handles *below* the rivets **A A** at the beginning of the injection. After the closing of the handles is thus started, the pressure can be applied to any part of them.

**NOTES.**

If at any time the Fig. 1 Syringe should not work as smoothly as desired, insert a fresh washer or two in the cap-nut, or a new set of two or three, or lubricate with vaseline.

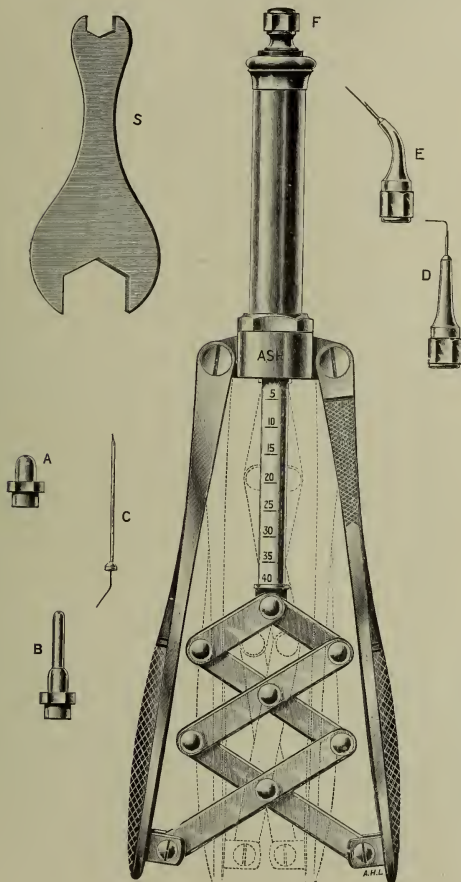
An expert says : " With any All-Metal Syringe, such as Fig. 2, which has a solid metal piston, the piston should be coated with a film of carbolated vaseline before *every* injection. This will minimise the liability of the fluid passing backwards under pressure."

All positions, upper and lower, can easily be reached from the front of the mouth, just as with an ordinary upper or lower forceps.

A straight or a curved needle can be used in any position ; and by a turn of the wrist the Syringe can be arranged to serve either above or below the level of the hand, to suit the convenience of the Operator.

Ample power can be applied to the handles with little effort, and at the same time the needle can be kept absolutely steady and completely under control.

GUNTHORPE'S FIG. 2 SYRINGE.



GUNTHORPE'S SYRINGES—*continued.*

Fig. 1 is shown full size on page 65.

„ 2 „ „ „ 67.

Descriptions of parts in both illustrations :

A—Short Mount for Schimmel's Needle.

B—Long „ „ „ „

C—Schimmel's Needle.

D—Straight Imperial Needle.

E—Curved „ „

F—Removable Cap of Syringe.

S—Spanner.

The illustrations represent the Syringes filled, and the dotted lines show the positions of the handles when the Syringes are empty.

Fig. 1 Syringe with one each straight and curved

Imperial Needles, or with long or short Mount	£	s.	d.
and one tube of Aseptic Needles	1	5	0

Fig. 2 Syringe with one each straight and curved

Imperial Needles, or with long or short Mount			
and one tube of Aseptic Needles	1	5	0

Leather cases for above	each	0	3	0
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Imperial Needles, Straight or Curved, **D** and **E**

per doz.	0	5	0
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Schimmel's Needles **C** :

In Polished Steel, in tubes of 6 Needles .	per tube	0	0	10
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In lots of 12 tubes, <i>i.e.</i> , 6 dozen Needles	per lot	0	8	6
--	---------	---	---	---

In pure Nickel, in tubes of 6 Needles .	per tube	0	1	9
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In lots of 12 tubes, <i>i.e.</i> , 6 dozen Needles	per lot	0	19	0
--	---------	---	----	---

Mounts A and B separately	each	0	0	6
---	------	---	---	---

Needle Washers and Packings for Fig. 1 Syringe

per pkt.	0	0	7
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„ „ „ „ „ 2 „ „	0	0	7
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STRONG, HEAVY NEEDLES

FOR THE IMPERIAL SYRINGE.

(As used by MR. A. H. PARROTT, L.D.S. Eng., B.D.S. Birmingham.)



In his Paper at the Annual General Meeting of the British Dental Association in Birmingham on **Anæsthesia in Conservative Work**, Mr. A. H. Parrott thus refers to the use of these Needles :—

“The syringe being filled with an ordinary sharp needle in position, a preliminary injection is made into the gum, using perhaps not more than 5 of the 30 minims which the syringe contains. The needle is then withdrawn, and changed for the heavier one. A clean round bur, of a calibre corresponding to that of the heavy needle, is placed in the handpiece, and the head is dipped in pure carbolic, any excess being shaken off. Tightening the soft tissues, if necessary, over the spot with a finger of the left hand, the bur, revolving fairly rapidly, is passed clean through them and made to penetrate the outer layer of compact bone, the perforation being made as near the level of the apices of the roots as easily practicable, in their direction, and as nearly as possible midway between them where the septum is thickest, to avoid injury of the periodontal membranes. The yielding touch of cancellous bone is easily distinguished, and the bur is withdrawn. If the preliminary injection has been effectively made, this small operation will be quite painless. The heavier needle (air being first carefully excluded from the syringe) is then inserted into the perforation in the bone under the soft tissues. The escharotic action of the pure carbolic on the bur, apart from its sterilising action, aids materially in locating the perforation again by whitening the edges of the puncture made by the bur in the soft tissues; without it there would be little visible sign of the perforation, owing to the automatic closure of the tissue, and the comparative bloodlessness of the part from the preliminary injection. The heavy needle is pressed well home into the pit prepared for it, and a deep injection is made with the remaining contents of the syringe, care being taken that the fluid does not leak back. Sometimes strong pressure is still needed, and this must be guarded, as the fluid may find its way into any arterial or neural canal adjacent, and entering with a rush may possibly cause a momentary pang to the patient or a touch of ‘nerves’ to the operator. Usually, however, it enters easily and steadily into the vascular bone.

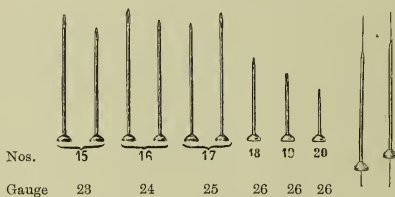
As soon as the desired quantity of anæsthetic has disappeared, excavating or burring operations may be commenced upon the tooth itself, and the delightful sense of relief and freedom which comes to the operator when he finds a hypersensitive and difficult cavity, with or without exposure, yielded up to him to work upon at his own sweet will is, in my experience, the nearest approach to heaven upon earth that a conscientious dentist can ever hope to know. The cavity is cut out more freely, and decay removed more effectually than is possible with any obtundent I have been able to find. Matrix or rubber-dam can be applied painlessly, and even that barbarous instrument, the separator, becomes merely scientific, as the soft tissues around share in the anæsthesia; cervical margins are thoroughly and freely dealt with; hæmorrhage is practically absent, and the tooth is filled with what you will (barring gold or inlays), and the patient with gratitude.”

Strong, heavy Needles, straight or curved, as illustrated, s. d.
for the Imperial Syringe each 1 0

SCHIMMEL'S INTERCHANGEABLE HYPODERMIC NEEDLES.



Improved Form.—The Soft Metal Head is now enclosed within a Hard Metal Casing.



Nos. 15, 16, 17, Regular, 1 inch long.

„ 15, 16, 17, Dental, $\frac{3}{8}$ inch long.

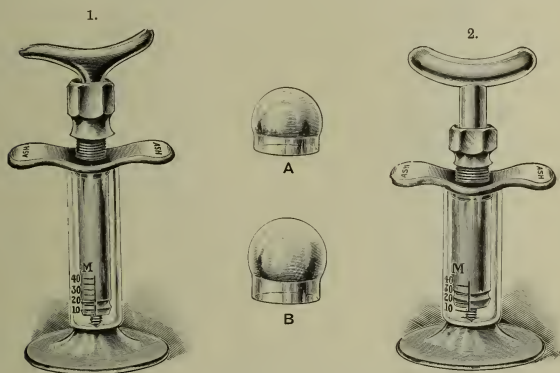
„ 18, 19, 20, Dental, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ inch long.

						<i>s.</i>	<i>d</i>
In Polished Steel, in tubes of 6 Needles					per tube	0	10
In lots of 12 tubes, <i>i.e.</i> , 6 dozen Needles					per lot	8	6
„ 24 „ 1 gross „					„	17	0
„ 48 „ 2 „ „					per gross	16	0
„ 72 „ 3 „ „					„	15	3
„ 120 „ 5 „ „					„	14	6

GLASS MEASURES.

FOR LOCAL ANÆSTHETICS.

The little Glass Measures here illustrated are marked for 10, 20, 30, and 40 minims. They are useful for measuring local anæsthetics, for mixing solutions, and for dissolving tablets in stipulated quantities of distilled water. To render it possible to draw all the fluid into the barrel of the syringe the bottom of each is V-shaped. They are shown with Imperial Syringe barrels in them.



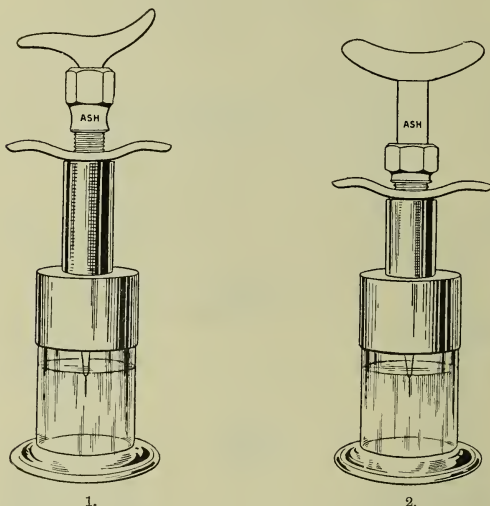
About half natural size.

Fig. 1 for barrels of Nos. 1 and 3 Imperial and Gunthorpe's No. 2 Syringes.
 „ 2 „ „ Nos. 2 and 4 „ Syringes.
 „ 3, not illustrated, for barrel of Gunthorpe's No. 1 Syringe.

	s.	d.
Glass Measures (Figs. 1, 2)	each	1 0
The same with glass rod for crushing tablets	„	1 3
Glass Cover A for Fig. 1 Measure when it is not in use	„	0 4
Glass Cover B for Fig. 2 Measure when it is not in use	„	0 4

When ordering a Glass Measure, please state what Syringe it is intended to be used with.

SYRINGE STERILISERS (BARDET'S).



The employment of one or other of these little Sterilisers ensures the Operator having a thoroughly sterilised Syringe in perfect working order always at hand.

Directions for Use :

After having placed the Syringe in the Steriliser, raise the piston in order to fill it with the disinfectant. When the Syringe is to be used, after discharging the disinfectant from it, fill it once or twice with boiling water, in order to clear it of every trace of the disinfectant.

Fig. 1, with Ash's Removable Mount, No. 1.

For Syringes with barrels which are not less than $2\frac{3}{4}$ inches s. d.
(7 cm.) long each 2 0

Fig. 2, with Ash's Removable Mount, No. 2.

For Syringes with barrels which are not more than 2 inches
(5 cm.) long each 2 0

The great advantage of Ash's Removable Mount, as shown on Figs. 1 and 2, is this : It can be thoroughly cleansed inside and out, and when it is lifted off the glass container, every part of the glass is left free for cleaning.

SYRINGE STERILISERS.

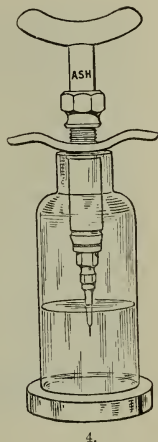
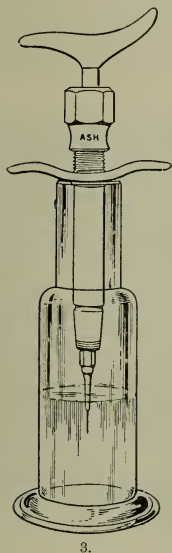


Fig. 3, All-Glass.

For Syringes with barrels which are not more than $3\frac{1}{4}$ inches *s. d.*
 (8 cm.) long each 0 9

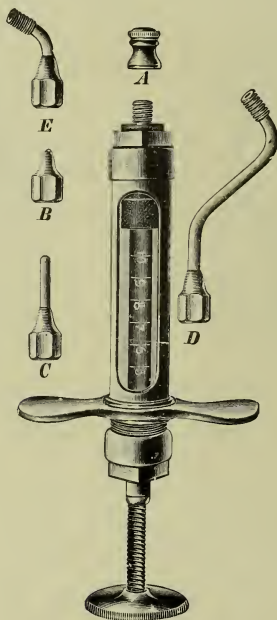
Fig. 4, All-Glass.

For Syringes with barrels which are not more than 2 inches
 (5 cm.) long each 0 9

GLASS BARREL HYPODERMIC SYRINGE.

In two sizes—20-minim and 40-minim capacity.

The **Glass Barrel** Hypodermic Syringe is widely known and much esteemed by Dental and Medical Practitioners as a good, strong, serviceable, and effective instrument. Great care is taken to maintain the highest possible standard of quality and to make the Syringe in every way satisfactory in use, and no effort will be spared to merit a continuance of the favour which it has won.



Actual size.

Glass barrel with metal casing, movable finger bars, and thumb knob.

A—Screw Cap. B—Short Nozzle. C—Long Dental Nozzle.
D—Bayonet-shaped Connection. E—Angular Connection.

GLASS BARREL HYPODERMIC SYRINGE—continued.

The Syringe is supplied in the styles mentioned below this illustration. The 20-minim size is furnished with Simple Piston, and the 40-minim size with Screw Extension Piston.



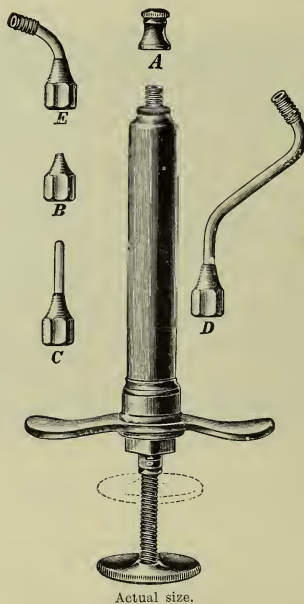
Syringe complete in Leather Case, with two Nozzles, two Connections, two tubes Schimmel's Needles, two empty tubes for Needles in use, etc., and Spanner.

		20-minim capacity.		40-minim capacity.	
		s.	d.	s.	d.
In Leather-lined Case, with Leather Packing	each	5	6	9	3
„ „ „ Asbestos „	„	5	9	10	0
In Metal Box, with Leather Packing	..	6	0	11	0
„ „ „ Asbestos „	„	6	3	11	9

ALL-METAL HYPODERMIC SYRINGE.

In two sizes—20-minim and 40-minim capacity.

For convenience and reliability the **All-Metal** Syringe, with flexible metal packing, is superior to any other form of Hypodermic Syringe in which a packing is used. It can be taken to pieces, boiled like any other metal instrument, and thus kept in a thoroughly aseptic condition.



All-Metal barrel and plunger, extra broad and strong removable finger bars, and screw extension arrangement.

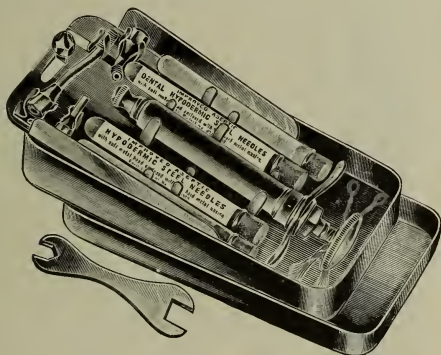
A—Screw Cap. **B**—Short Nozzle.

C—Long Dental Nozzle.
D—Bayonet-shaped Connection.

ALL-METAL

HYPODERMIC SYRINGE—*continued.*

The Syringe is supplied in various styles, as mentioned below this illustration. The 20-minim size is furnished with Simple Piston, and the 40-minim size with Screw Extension Piston.

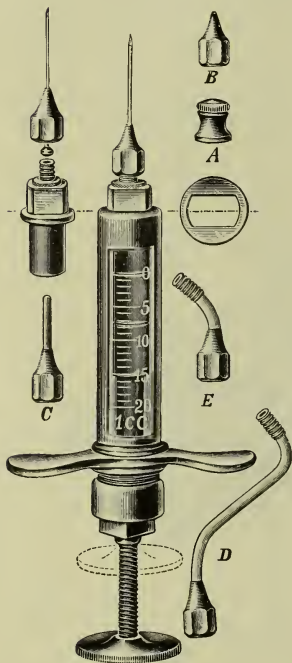


Syringe complete in Metal Box, with two Nozzles, two Connections, two tubes of Schimmel's Needles, two empty tubes for Needles in use, etc., and Spanner.

	20-minim capacity.	40-minim capacity.
In Leather-lined Case, with Flexible Metal Plunger each	s. d. 5 9	s. d. 10 0
In Metal Box, with Flexible Metal Plunger each	6 3	11 9

PERFECTION HYPODERMIC SYRINGE.

In two sizes—20-minim and 40-minim capacity.



Actual size.

Glass barrel, metal casing, short nozzle and needle, finger bars, and screw extension piston rod.

A—Metal Cap; B—Short Nozzle; C—Long Dental Nozzle; D—Bayonet-shaped Connection; E—Angular Connection.

The **Perfection** Hypodermic Syringe is made of Metal and Glass only, with the plunger of Nickel. The Screw Extension Piston Rod is accurately ground to fit the glass barrel, in which it slides easily and smoothly without any lubricant. The graduations are burnt in the glass barrel, and are therefore indelible. A spring in the metal cap through which the plunger works prevents automatic sliding of the plunger.

The **Perfection** Syringe is suitable not only for dental purposes, but also for universal use—for injections and small punctures of all kinds.

PERFECTION HYPODERMIC SYRINGE—*continued.*

Each Syringe is supplied in case with—

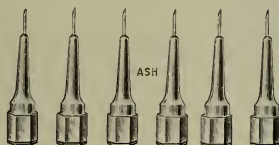
- 2 tubes of Schimmel's Needles ;
- 2 empty tubes for Needles in use, etc. ;
- 2 Nozzles *B* and *C* for carrying Needles ;
- 2 Connections *D* and *E* ;
- 2 bundles of Cleansing Wires ;
- 2 packets of spare Washers.

		20-minim capacity.	40-minim capacity.
		s. d.	s. d.
In Leather-lined Case, with Nickelin Plunger .	each	16 0	18 0
In Metal Box, with Nickelin Plunger	„	18 0	20 0

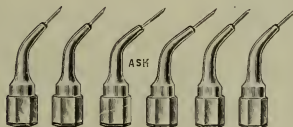
IMPERIAL SYRINGE NEEDLES.

To prevent rust, we are now supplying the Imperial Syringe Needles in bottles of one dozen, either straight, curved, or assorted.

STRAIGHT.



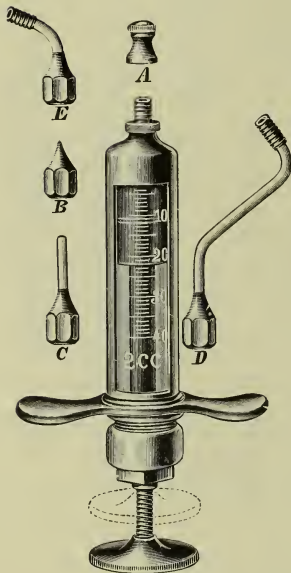
CURVED.



		s. d.	s. d.
Super-Finish	each	0 6 ;	5 0
Regular Form.	„	0 3 ;	2 6

PROGRESS HYPODERMIC SYRINGE.

Capacity, 40 minims.



Actual size.

A—Metal Cap; B—Short Nozzle; C—Long Dental Nozzle; D—Bayonet-shaped Connection; E—Angular Connection.

The **Progress** and the **Perfection** Syringes can be taken apart for cleansing and sterilising by simply unscrewing the cap at the end of the metal mount through which the plunger works. They should be sterilised with the plunger drawn out and all the metal parts separated from the glass barrel. This will prevent the risk of breaking the glass.

Each Syringe is supplied in case with—

- 2 tubes of Schimmel's Needles ;
- 2 empty tubes for Needles in use, etc. ;
- 2 Nozzles *B* and *C* ;
- 2 Connections *D* and *E* ;
- 2 bundles of Cleansing Wires ;
- 2 packets of spare Washers.

	s.	d.
In Leather-lined Case, with Nickelin Plunger	each	13 6
In Metal Box, with Nickelin Plunger	„	15 6

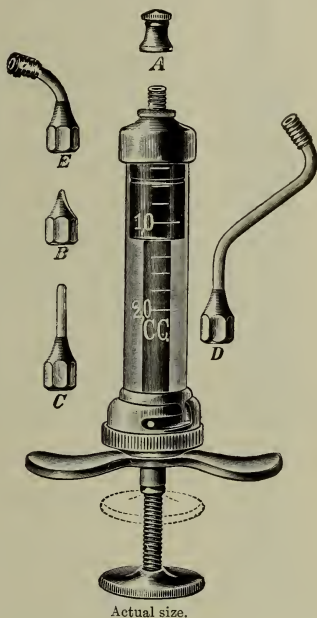
REFORM HYPODERMIC SYRINGE.

Capacity, 2 cubic centimetres.

The **Reform Syringe** is supplied in two forms—1, **without metal casing**, the mounts being soldered upon the glass barrel; and 2, with metal casing. In ordering, be careful to state which form is wanted.

Each Syringe is supplied in case with—

- 2 tubes of Schimmel's Needles;
- 2 empty tubes for Needles in use, etc.;
- 2 Nozzles *B* and *C*;
- 2 Connections *D* and *E*;
- 2 bundles of Cleansing Wires;
- 2 packets of spare Washers.



A—Metal Cap.

B—Short Nozzle.

C—Long Dental Nozzle.

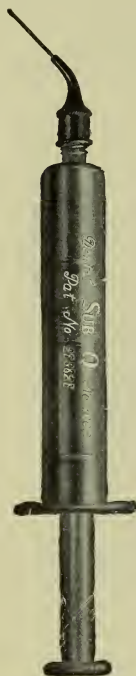
D—Bayonet-shaped Nozzle.

E—Angular Connection.

		Without metal casing. <i>s. d.</i>	With metal casing. <i>s. d.</i>
In Leather-lined Case, with Nickelin Plunger . . .	each	15 0	17 0
In Metal Box, with Nickelin Plunger	„	17 0	19 0

THE SUB-Q ASEPTIC GLASS SYRINGE

WITH GOLD NEEDLE.



THE SUB-Q ASEPTIC
GLASS SYRINGE.

The term Sub-Q (sub-cutaneous) is especially intended to apply to this Syringe for **Surgical** purposes ; for **Dental** purposes it is better described as a Root-dressing Syringe. It is a most excellent instrument for applying Pyrozone, Dioxogen, Peroxide of Hydrogen, Iodine, Acids, or any other fluid which corrodes such metals as Steel, German Silver, etc. In use it affords a good view of the field of operation.

It is an all-glass Syringe, packed with McElroy's new mineral packing, which is much superior to the ordinary asbestos packing, and permits of easy and sure sterilisation. This, with its Solid Curved Gold Point, makes it absolutely non-corrosive.

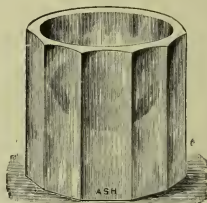
CAUTION.—The packing must be thoroughly wetted before the Syringe is used, and force must not be employed when inserting or withdrawing the piston.

Price complete with Gold Point . . . ^{s.} 6 ^{d.} 6

DAPPEN'S GLASS.

Dappen's Medicament Glass is a unique little holder which can be put to a variety of uses. It is convenient for transferring small quantities of fluid from a bottle for use during operations, and thus renders unnecessary the insertion of the conveying tweezers in the bottle after they have been in contact with the patient's mouth.

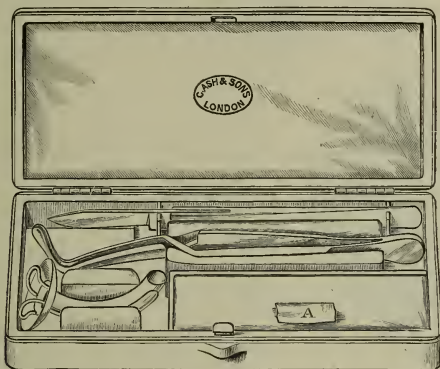
In Clear, Ruby, Blue, and Green . . . ^{s.} ^{d.}
Glass each 0 5



Natural size.

EMERGENCY CASE, FOR THE OPERATION OF TRACHEOTOMY.

Every Practitioner who is in the habit of administering anæsthetics should have such a Case as this always at hand, and ready for use in the event of any untoward circumstance arising.



The Case contains :—

- 1 All-metal Scalpel,
- 1 Dilating Forceps,
- 1 Silver Tracheotomy Tube, and
- A space, marked A, for holding a supply of Nitrite of Amyl.

Price, in leather, complete with Instruments . . . 28 0

For Nitrite of Amyl, see page 128.

Emergency Cases to hold the above Instruments, etc., and other needful appliances, made to order.

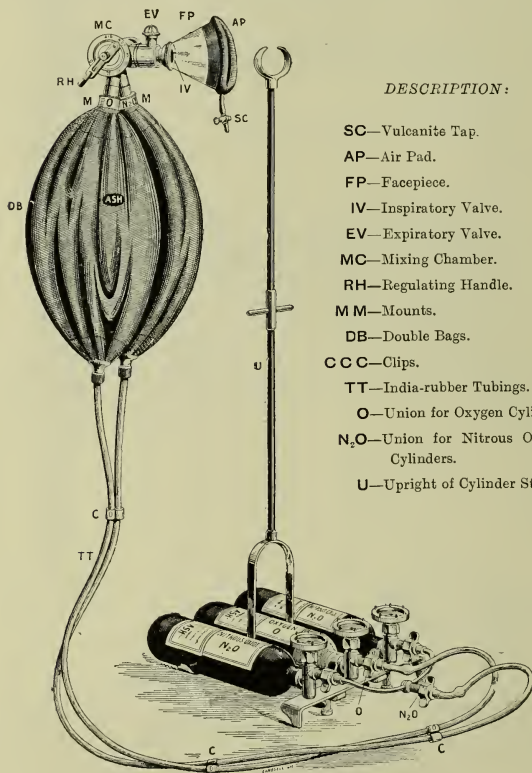
AROMATIC AMMONIA VAPORILES.

For use on patients as smelling salts, during recovery from anæsthesia, or at any other time, should faintness or giddiness be experienced.

Per box of 12, with directions for use 1 6
K G 2

NITROUS OXIDE AND OXYGEN APPARATUS.

(WELLER'S.)

TRIPLE STAND WITH UPRIGHT, Etc., FOR ANGLE-TYPE
CYLINDERS.

DESCRIPTION:

SC—Vulcanite Tap.

AP—Air Pad.

FP—Facepiece.

IV—Inspiratory Valve.

EV—Expiratory Valve.

MC—Mixing Chamber.

RH—Regulating Handle.

M M—Mounts.

DB—Double Bags.

C C C—Clips.

TT—India-rubber Tubings.

O—Union for Oxygen Cylinder.

N₂O—Union for Nitrous Oxide
Cylinders.

U—Upright of Cylinder Stand.

NITROUS OXIDE AND OXYGEN APPARATUS—

continued.

The Nitrous Oxide and Oxygen Apparatus (as illustrated) can also be used for Nitrous Oxide alone. There are no complicated parts about it, no tubes within tubes to give trouble, or valves in mounts liable to be sucked in and thus deprive the Anaesthetist of complete control of the gases.

Complete as illustrated, with N_2O and O Apparatus,
 two 1/100 Angle Cylinders filled with N_2O , and
 1/100 Angle Cylinder filled with 30 gallons of £ s. d.
 Oxygen 12 18 6

Separately :

Apparatus down to Stand, including the Single
 Unions, but not the Gas Cylinders or the Stand . 5 7 6
 2 Angle-type N_2O Cylinders, full 3 6 0
 1 „ Oxygen Cylinder, full 1 10 0
 Triple Stand minus Cylinders 2 15 0

(The same without upright, £1 17s. 6d.)

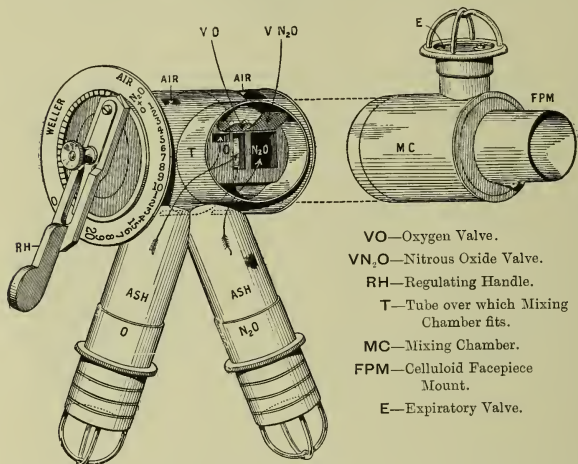
DIRECTIONS FOR USE:

To prepare the Apparatus for use, put the several parts together, as shown in the illustration, and see that the facepiece fits accurately. Care should be taken to attach the union on the India-rubber tubing which is marked **O** to the Oxygen cylinder, and the other union to the outlet of the double connection N_2O . To use, turn the handle **RH** downwards until the pointer stands at **Air**, and proceed with the administration.

It is advisable to remove the mixing chamber **MC** from time to time, to see that the valves **O** and N_2O are in proper working order.

To take out the inner drum, unscrew the milled nut on the opposite side of the indicator of handle **RH** and draw out the handle.

NITROUS OXIDE AND OXYGEN APPARATUS— *continued.*



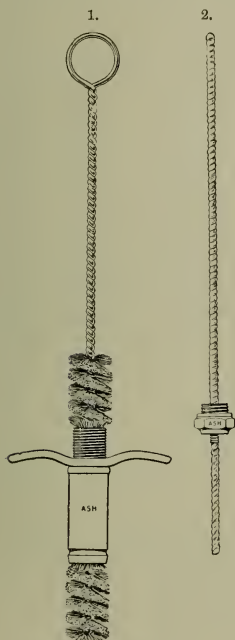
NITROUS OXIDE AND OXYGEN STOPCOCK.

The Nitrous Oxide and Oxygen Stopcock with Mixing Chamber is so designed that the valves can easily be inspected before use. This is effected by taking off the front tube **MC**. The removal of this tube exposes the inspiratory valves **VN₂O** and **VO**. When air alone is given it is admitted through both the air-ways and the **O** and **N₂O** valves, and expired through valve **E**. It is always advisable to put them in action by giving air before either Nitrous Oxide or a mixture of Nitrous Oxide and Oxygen is administered. The gases are mixed together in the chamber **MC**.

Through this Stopcock any quantity of air or Nitrous Oxide can be given, or Nitrous Oxide with any proportion of Oxygen from 1 to 20 per cent., by moving the handle **RH** as required. When the pointer is fixed at **Air**, the patient only breathes air; when at **N₂O**, only Nitrous Oxide gas; and when at **O**, only pure Oxygen. Nitrous Oxide gas with any percentage of Oxygen from 1 to 20 per cent. can be administered by moving the pointer from **N₂O** towards **O** and setting it upon any one of the twenty given figures.

NITROUS OXIDE AND OXYGEN APPARATUS— *continued.*

The percentage of oxygen is admitted through a wedge-shaped slot on the inner drum of the valve seat **O**, which can be more readily cleaned than the little holes such as have heretofore been adopted. No valves are required in the delivery tubes, because both the inspiratory valves are closed by exhalation, which checks both gases, hence premature mixing cannot take place during exhalation.



SYRINGE BRUSHES.

SYRINGE BRUSHES.

Fig. 1.—For cleaning the barrels
of the Imperial Syringes
Nos. 3 and 4, shown on s. d.
page 63 . . per doz. 6 0

These Brushes also can
be used for the Nos. 1
and 2 Imperial Syringes.

When ordering, state
for which Syringe the
Brushes are required.

Fig. 2.—For cleaning the nozzle
mount of Imperial s. d.
Syringes . per gross 1 3

HEWITT'S SIMPLIFIED PORTABLE APPARATUS FOR ADMINISTERING NITROUS OXIDE AND OXYGEN.

DIRECTIONS FOR USE:

All air or gas should first be pressed out of the double bag,* the indicator turned to "Air" (see Fig. 2), and the two divisions of the bag nearly, but not quite, filled with their respective gases, by rotating the foot keys. No further addition of oxygen will be needed. The facepiece should then be very accurately applied. Air will be breathed freely through the apparatus. The valves should be heard to act, otherwise the facepiece is not fitting, or the patient is not breathing as freely as he should. The indicator is now turned to "1," which means that nitrous oxide with a small quantity, possibly 1 or 2 per cent., of oxygen will be inhaled. It is most important that the two divisions of the double bag should be kept *equally and partly distended*, as shown in Fig. 1. The Anaesthetist must therefore keep his foot almost constantly turning the nitrous oxide foot key in order that the two parts of the bag may remain equal in size throughout. After two or three breaths

at "1" the indicator should be turned to "2," and progressively, after every two or three breaths, to "3," "4," "5," "6," "7," "8," "9," or "10," according to

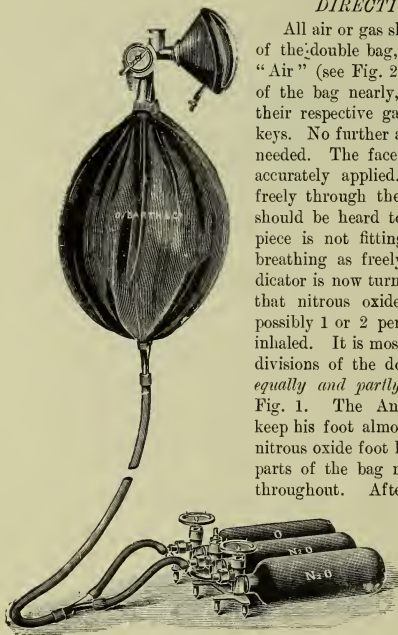


FIG. 1.—APPARATUS COMPLETE.

the type of patient. In children and very anæmic persons the indicator may be placed at "2," "3," or even "4," to start with, and turned to a fresh number every breath or two. But in adults in good health less oxygen must be given.

It is not advisable to press the bags too tightly, as the suction caused by the sides adhering together has a tendency to draw the valves in the delivery tubes through to the wrong side.

HEWITT'S PORTABLE APPARATUS—continued.

IMPORTANT.

As it is essential to the proper working of the apparatus that all the four valves act well, and the ten oxygen inlets be kept entirely clear, it is recommended that the apparatus be taken apart from time to time and the condition of these ascertained.

TO EXAMINE OXYGEN INLETS.

—Take out the three milled head screws, remove the indicator handle with detent spring, replace the centre screw in dial side of stopcock, and pull out the inner drum. If any of the openings appear to be clogged, pass a piece of metal wire of suitable size through each one until quite clear.

LUBRICATING INNER DRUM.

—It is very important that no grease or oil be put on that part of the drum which revolves immediately over the oxygen inlets. Any neglect of this will cause them to get choked up, and render it necessary to take the apparatus to pieces again.

TO EXAMINE VALVES IN DELIVERY TUBES.

—Slip off the necks of gas bag one after the other, the valves can then be drawn out of the tubes by the finger. In replacing them always have the inlets to mixing chamber open to avoid the rubber discs being forced through to the wrong side.

N.B.—The centre screw, which keeps in position and regulates the tension of the detent spring, will in time get somewhat slack; it should then be screwed up again to the necessary degree of tightness.

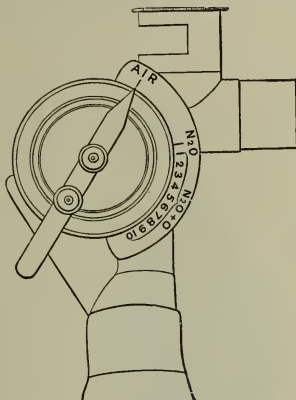


FIG. 2.—INDICATOR, ETC.

Apparatus consisting of Facepiece, Stopcock with Valves,			
Mixing Chamber and Indicator, Double Bag, India-rubber	£	s.	d.
Tubing, Unions for attaching to the Gas Cylinder Stand . . .	5	4	6
Two 100-gallon Cylinders Nitrous Oxide Gas, one 30-gallon			
Cylinder Oxygen, Triple Stand, and Accessories . . .	6	19	6
Complete	£12	4	0

HEWITT'S PORTABLE APPARATUS

FOR ADMINISTERING NITROUS OXIDE AND OXYGEN.

IMPROVED FORM.



Apparatus consisting of Facepiece,
Stopcock with Valves, Mixing
Chamber and Indicator, Double
Bag, India-rubber Tubing for
attaching to Gas Cylinder £ s. d.
Stand 5 4 6

Two 50-gallon Cylinders Nitrous
Oxide Gas with complete Pedal
arrangement, and one 15-
gallon Cylinder Oxygen . . 6 1 0

Making total cost of Apparatus as
illustrated £11 5 6

Special Leather Bag to hold all £ s. d.
the above 4 10 0

Twin Bags only, Black Rubber . 1 12 6

" " " Silk . 1 12 6

PATERSON'S IMPROVED NASAL INHALER

(REGISTERED),

For Prolonging Nitrous Oxide Anæsthesia in Dental Operations by the late Mr. Alfred Coleman's Method.

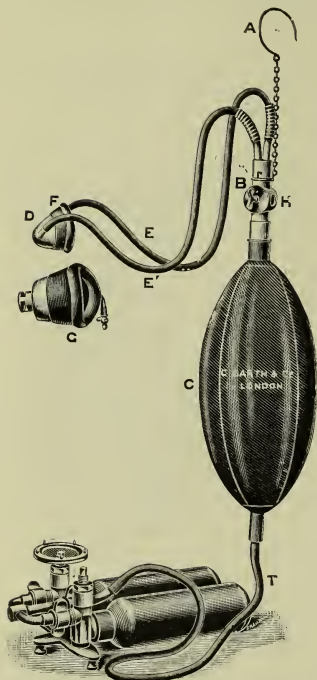
Various methods have from time to time been advocated with a view to prolonging Nitrous Oxide Anæsthesia for operations about the mouth, but so far the lack of a fairly simple and at the same time economical and efficient apparatus for this purpose seems to have proved a formidable barrier against this method being adopted to the extent that it might have been.

In the apparatus here illustrated, Mr. J. H. Paterson claims to have satisfactorily overcome the difficulties which have hitherto prevented the extensive use of Mr. Alfred Coleman's method, and in advocating its advantages says :—

“Admitted that it is feasible and safe to prolong nitrous oxide anæsthesia for ordinary surgical operations, the question naturally arises, Can we do so during the progress of operations about the mouth? The advantage of being able so to do must be at once apparent, more especially to dental surgeons. Various methods have been from time to time tried with this end in view. In my opinion the nose is a better channel for administering the gas to the patient than the mouth, for not only is the apparatus used more out of the way of the operator, but (and I think this a point of some importance) the majority of patients during normal gas anæsthesia seem to breathe through the nose in preference to the mouth.

The apparatus consists of a small metal cover, made to fit the nose accurately with the aid of a rubber pad. The pad is detachable, so that the cover can be readily sterilised by boiling. Two small metal tubes are let into the nosepiece, and to these are attached two rubber tubes which lead to an ordinary gas bag, a two-way stopcock intervening. In the apparatus, the nosepiece is placed *in situ*, the bag being filled with gas, and the stopcock turned on. After the patient has taken a few breaths of gas, a celluloid cover is placed over the mouth. At the top of the mouth cover is an expiratory valve. The patient is now breathing gas through the nose only, and expiring through the mouth. I may say that the use of this mouth cover is not absolutely necessary. Its function is two-fold. It diminishes the period of inhalation necessary for the

PATERSON'S IMPROVED NASAL INHALER—

continued.

- A—Hook and Chain for attaching Inhaler to coat or waistcoat.
 B—Twin Connector.
 C—Gas Bag.
 D—Nasal Piece.
 E E'—Tubes leading from Nasal Piece to Twin Connector.
 F—Mounts on Nasal Piece.
 G—Mouth-Piece.
 H—Straight-way Stopcock.
 T—Tubing from Gas Bag to Cylinder Stand.

production of anæsthesia, and consequently economises gas. In about thirty seconds the mouth cover is removed, and the operation proceeded with. The patient is now taking in gas through the nose, and a limited amount of air through the mouth, and there is no difficulty in maintaining anæsthesia; indeed, the stopcock has often to be turned off occasionally, in order to allow the patient to obtain more air than is admitted by the mouth.

Results. — So far the results have been most encouraging.

The longest period during which I have had the opportunity of maintaining anæsthesia by this means is nine minutes fifty-five seconds. This was at a public demonstration at Cambridge, on a man aged 35. The patient was kept absolutely quiet, and recovered after a very few minutes. During anæsthesia two teeth were prepared for crowning, and eighteen teeth extracted. On twenty - three occasions the anæsthesia has exceeded four minutes, but it must be mentioned that these times represent the actual duration of the operation, and not the total available anæsthesia, which would be twenty or thirty

PATERSON'S IMPROVED NASAL INHALER—

continued.

seconds longer, and which could have been further prolonged had the operation required it.

Disadvantages.—So far as I know there is only one disadvantage with this method, and that is, that owing to the Anæsthetist being engaged in giving gas all through the operation, he is not so able to assist the operator as in giving gas in the ordinary way. It is, however, quite possible, although somewhat inconvenient, to manipulate the gag when required.

Advantages.—It may be said that this procedure is all very well for exceptional cases, but for ordinary cases gas mixed with air or oxygen is more suitable and is simpler. I venture to hold a contrary view. In the first place, it is not infrequently impossible to foresee whether any given extraction will be difficult or easy. With this method of administration, inasmuch as anæsthesia can be kept up practically as long as is required, there is no limit to the time at the operator's disposal, consequently he need in no way hurry, but quietly proceed with the work he has to do. I think this is an advantage which every dental surgeon will readily appreciate. I venture to maintain that the ordinary method of dosing the patient with gas to the utmost limit, so as to maintain the anæsthesia as long as possible after the removal of the facepiece, is unscientific and wrong in principle. In this method the administration need not be pushed so far, the anæsthesia is carried only to the stage of unconsciousness, and the patient maintained gently under the influence of the gas without pushing it to an extreme degree."

Inhaler complete as illustrated, minus the Cylinders	£	s.	d.
and Union	3	0	0

Parts separately :

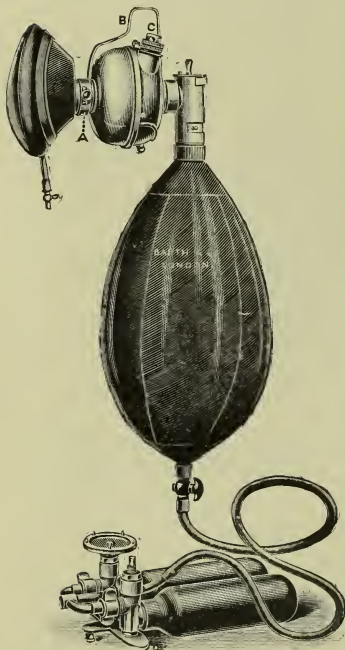
Nasal Piece D , in Aluminium, with Pad and Tap, with Tubes E E and Twin Mount B	1	1	0
Straight-way Stopcock H	0	9	0
Small Gas Bag C , with Mount and Tubing T	0	19	0
Mouth-Piece G , in Celluloid	0	16	0
Single Union	0	3	6
Hook and Chain A	0	1	0

DR. F. W. HEWITT'S
IMPROVED LARGE BORE INHALER,

FOR THE ADMINISTRATION OF ETHER ALONE OR IN COMBINATION
WITH NITROUS OXIDE.

(BARTH & Co.'s MAKE.)

FIG. 1.



INHALER FOR GAS AND ETHER.

This Inhaler, although based upon Clover's well-known design, differs from it in several important respects; these essentially are :—

1. The large (or wide) bore, as the title denotes.

2. The stationary form of ether reservoir (B), flattened at both ends, with special filling opening (C) for pouring in the ether.

3. An improved form of facepiece (D), screwing on to the ether chamber and locking in any desired position.

The advantages claimed for the apparatus over the ordinary Clover's Inhaler are that :—

1. By the substitution of large breathing channels (or air-ways) a distinct alteration is produced in the usual phenomena of a "gas and ether" administration; the principal difference being, to quote Dr. Hewitt's words, "that stertor and cyanosis are lessened, and that the patient passes smoothly, with little or no respiratory derangement, from the anæsthesia of nitrous oxide to that of ether."

DR. HEWITT'S LARGE BORE INHALER—*continued.*

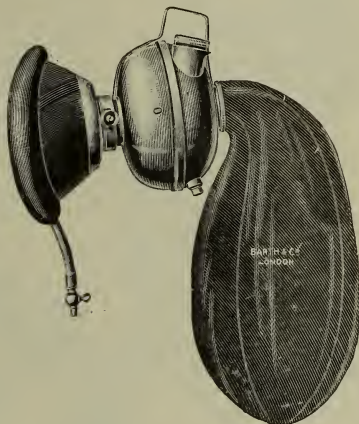
2. Through the ether chamber remaining stationary it can always be conveniently held, so that at any period of an administration more ether can be introduced without removing the facepiece from the position in which it is being used, and it is unnecessary to have a charge of ether in the chamber previous to or whilst administering gas. With nervous patients and those strongly opposed to all smell of ether, it will be found to be a very considerable gain to be able to avoid introducing it whilst the pungent effects are noticeable by the patient.

3. The perforated stopper C with glass bulb and metal cap enables the amount of ether in the chamber to be approximately ascertained.

4. The facepiece with screwed mount prevents all chance of its becoming detached from the chamber, and it can be altered to any position that is required, and fixed there by means of the small milled set screw A without moving the other portions of the Inhaler.

The apparatus is readily cleansed by washing or sterilised by other suitable means, and it has been designed with a view to the principal weight being brought as near to the facepiece as possible, thus lessening the leverage through its longer axis, and reducing to a minimum the tiring effect upon the hand when held for any length of time.

FIG. 2.



INHALER FOR ETHER ONLY.

Large Bore Inhaler for Gas and Ether—Fig. 1 (exclusive of £ s. d.
Cylinders) 5 17 6

(If supplied with Barth's Reversible Ether Bag, 8s. extra.)

Large Bore Inhaler for Ether only, as Fig. 2 3 11 6

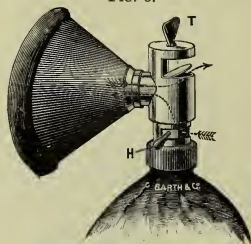
Case with Glass-stoppered Bottle to hold Inhaler, Fig. 2 0 10 6

DR. HEWITT'S INHALERS.

(BARTH'S MAKE.)

Facepiece, Stopcock, and Gas Bag for the administration of Nitrous Oxide Gas only.

FIG. 3.



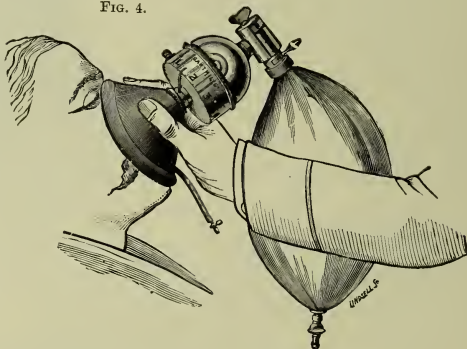
T—Tap which controls Valves.—When it is turned as shown in Fig. 3 the valves in the stopcock act and all expirations escape.

H—Handle which determines whether Air or Nitrous Oxide is breathed.—When **H** is arranged as in Fig. 3 the air-hole is open and air is breathed ; when it is turned so that the air-hole closes, Nitrous Oxide is breathed instead of air.

N.B.—Should the Nitrous Oxide fall short, or should the administrator wish to convert the gas bag into a "Supplemental Bag," the valves can at once

be thrown out of action by turning the handle **T**, and the patient will then breathe into and from the bag.

FIG. 4.



Facepiece, Clover's Ether Chamber, Stopcock, and Gas Bag for the administration of Nitrous Oxide and Ether.

When the Ether Chamber is used, Nitrous Oxide with a small quantity of Ether may be administered, or gas only may be given as a preliminary to deep etherisation.

Hewitt's Nitrous Oxide Inhaler complete, consisting of ordinary Facepiece, Three-way Stopcock, Bag, Vulcanite Tap, Tubing, and Union (Fig. 3)

The same with Celluloid Facepiece

Facepiece, Ether Chamber, and Gas Bag (Fig. 4)

The same with Celluloid Facepiece

£	s.	d.
3	1	6
3	5	0
3	3	6
3	7	0

ETHER INHALER (ORMSBY'S),

WITH LARGE BAG INTRODUCED BY MR. WOODHOUSE BRAINE.

For description of this Inhaler and its advantages see pages 86 to 88 of the second edition of

Underwood and Braine's Notes on Anæsthetics in Dental Surgery.

"It is an exceedingly useful one, very simple in construction, has no parts to get out of order, and is not liable to be damaged by a struggling patient. It consists of a Facepiece, to which is affixed a wire cage bearing an ordinary sponge, and of a respiratory bag drawn over the cage.

"Fitted on to the Facepiece is a brass cap, covering a funnel-shaped opening leading down to a lead tube, which bifurcates, enclosing the sponge. This tube is punctured with many openings, and is intended to facilitate the pouring on of ether without removing the Facepiece."

As here illustrated, it is provided with a Bag 12 inches in diameter, which is "quite large enough to hold an expiration without any distension of the bag."



"To use Inhaler, choose a good open sponge—one that can be breathed through easily—and place it in the cage loosely, entirely filling up the opening at the commencement of the cage. Then pour on ʒij . ether" (anhydrous ether, specific gravity 0·720), "and gradually apply to face. Very soon ether may be increased by another ʒij ., and with care the patient can be anæsthetised as quickly and comfortably as with a Clover Inhaler, and remain a better colour throughout." . . . Moreover, "a stronger ether vapour can be obtained with it than with the Clover, and there are fewer after-effects when it has been used."

	s.	d.
Ormsby's Ether Inhaler, with Celluloid Facepiece	26	0
Extra Facepiece Pads each	5	6
Anhydrous Anæsthetic Ether (specific gravity 0·720) . . . per pint	7	0
K		H

GAGS, OR MOUTH PROPS.

FIG. 1.



FIG. 2.

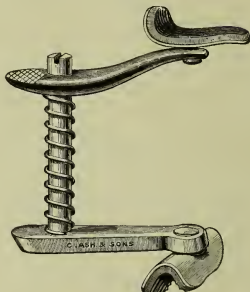


FIG. 2A.

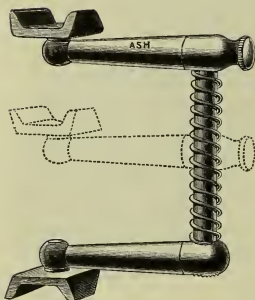


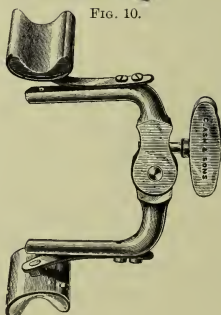
FIG. 9.



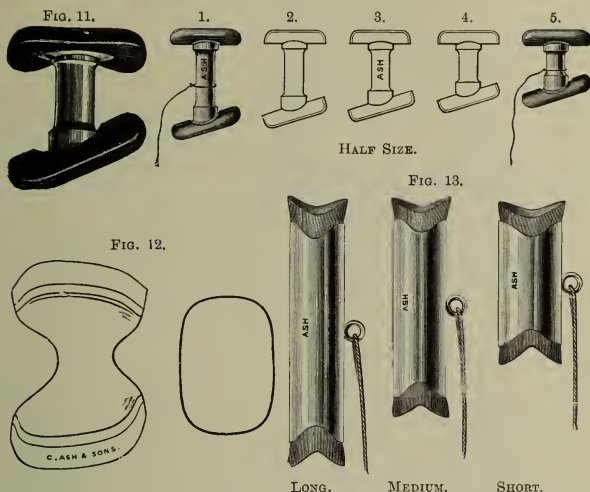
FIG. 8.



FIG. 10.



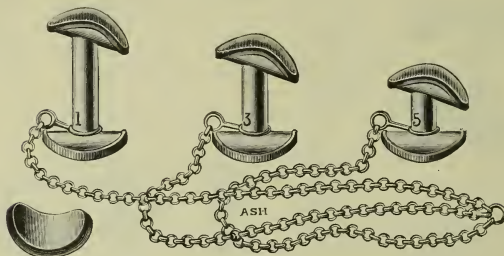
GAGS, OR MOUTH PROPS—continued.



- | | |
|--|--------------|
| Fig. 1. Spring Gag in Steel, Nickel-plated, with gutta-percha pads and adjusting screw. | s. d. |
| Made in two lengths—long and short | each 4 0 |
| Fig. 2. Hinged Gag (Mr. Brunton's) in Steel, Nickel-plated, with India-rubber pads on the plates and spring on rod | each 6 6 |
| Fig. 2A. Modified form of Mr. Brunton's Gag, with straight arms and lead pads | each 5 6 |
| Fig. 8. Spring Gag (Mr. Buck's) in Steel, Nickel-plated, with adjusting screw, India-rubber pads and knuckle-joint. | |
| Made in two sizes—large and small | each 7 6 |
| Extra Pads for ditto | per pair 0 4 |
| Fig. 9. Simple Gag in Vulcanite, with soft India-rubber pads. | |
| Made in three sizes—long, medium, and short | each 1 4 |
| Fig. 10. Adjustable Gag in Steel, Nickel-plated, with regulating thumb-screw and gutta-percha pads | each 14 0 |
| Fig. 11. Fixed Gag (Dr. Hewitt's), made in Aluminium, in five lengths, known as sizes 1-5. Size 1 is $1\frac{3}{4}$ inches long in the centre, and sizes 2, 3, 4, 5 are respectively $1\frac{1}{4}$, $1\frac{1}{2}$, 1 and $\frac{3}{4}$ in. | |
| In Aluminium, any size, with lead pads | each 3 6 |
| Extra India-rubber Pads | per pair 0 4 |
| Fig. 12. Extra Stout Vulcanite Gag, with ends of Soft Rubber, rounded or square on the edges | each 3 3 |
| Fig. 13. Lee's Gags, with Cork ends, long, medium, and short | 1 0 |
| Extra Cork ends | per 100 3 0 |

HEWITT'S MOUTH PROPS,

WITH LEAD PADS.



Sizes 1, 3, 5, secured together with strong silver chain.

	s.	d.
The Set complete, with Chain	13	6

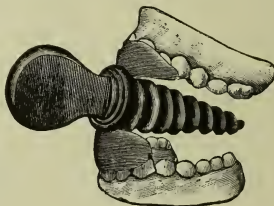
Separately :

Gags only, with Lead Pads, any size	each	3	0
Extra Lead Pads, stamped to shape	per doz.	2	0
Silver Chain	per foot	2	0
German Silver Chain	„	0	9

MAUNDER'S SCREW GAG.

For rapidly forcing open the mouth. Mr. Salter, on page 234 of his book on "Dental Surgery and Pathology," in speaking of this appliance, says: "Upon introducing the point" of the Gag "between the incisors or canines or præmolars, and slowly turning the instrument, it evenly and regularly progresses, separates the jaws, and, as I have thought, with quicker results than any other method."

In the illustration the Gag is shown in use in a case of partial closure, where the front teeth are protected by vulcanite plates; but such plates cannot, of course, be employed in cases of complete closure. The late Mr. Salter used the Gag without anything to protect the teeth.

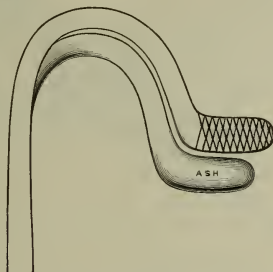


About half size.

Made of Boxwood	s.	d.
	2	3

ADJUSTABLE GAGS,

WITH MR. W. R. ACKLAND'S IMPROVED JAWS.

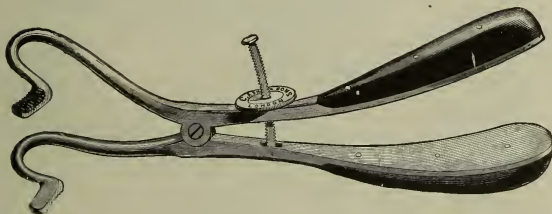


When the jaws of the old pattern Mason's and such-like Gags are used for opening the mouth, the wedge which is formed, by one beak closing upon the other, is too thick for easy insertion between the teeth.

In the valuable modification here shown Mr. Ackland has so constructed the jaws that they close side by side and form a wedge half the thickness of the old style and double the width—two points which will be warmly appreciated by Anaesthetists.

The Mason's Gag shown below, the Buxton's and the Fergusson's on the next two pages, are all now made with these improved jaws.

MASON'S GAG.

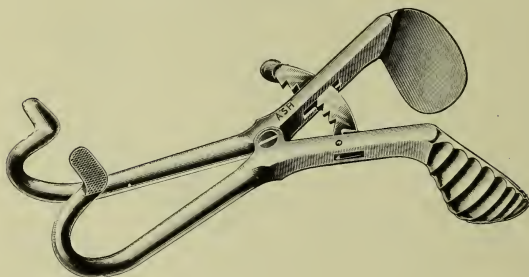


Made with long Ebony handles as illustrated, all bright parts
 Nickel-plated, and supplied with India-rubber pads for patients to bite upon each

s.	d.
16	6

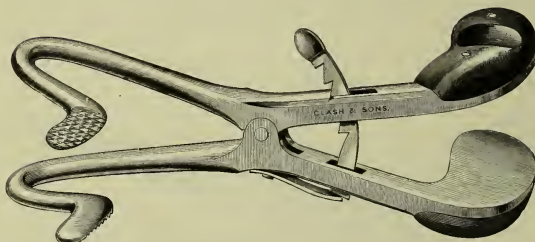
Mason's Gag, All-Metal, Nickel-plated „ 16 6

BUXTON'S ALL-METAL GAG.



		s.	d.
With Ackland's Jaws, Nickel-plated	each	16	6
„ Old-Style „	„	16	6

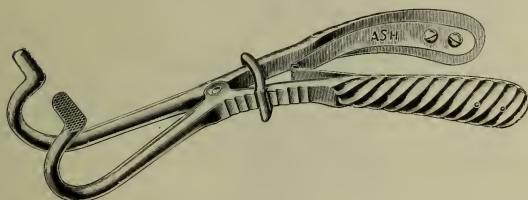
BUXTON'S GAG, WITH EBONY HANDLES.



Dr. Buxton claims that this modified Mason's Gag, with Hinged Ratchet Bar, can be much more rapidly applied and removed than the old form. It is easily worked and controlled with one hand.

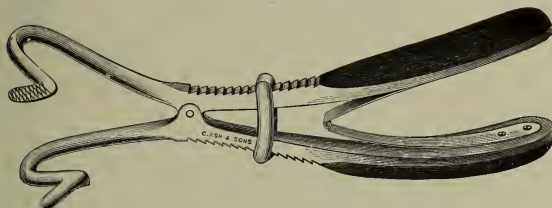
		s.	d.
With Ackland's Jaws, Nickel-plated	each	16	6
„ Old Style „	„	16	6

FERGUSSON'S ALL-METAL GAG.



	s.	d.
With Ackland's Jaws, Nickel-plated	16	6
„ Old Style „ „	16	6

FERGUSSON'S GAG, WITH EBONY HANDLES.



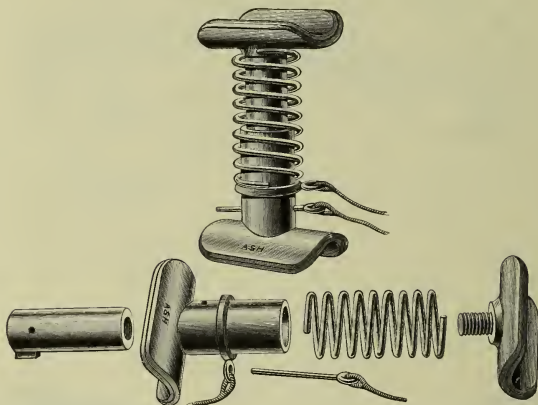
With powerful spring between the handles, and adjustable loop, which holds the jaws of the instrument open at any desired point.

Owing to the great rapidity with which the Gag can be worked, it is much appreciated by Anæsthetists.

	s.	d.
With Ackland's Jaws, Nickel-plated each	16	6
„ Old Style „ „ „	16	6

MR. G. H. J. ROGERS'
ASEPTIC MOUTH PROP OR GAG.

(REGISTERED. REG. NO. 456,387.)



Gag complete. The same taken to pieces for sterilising.

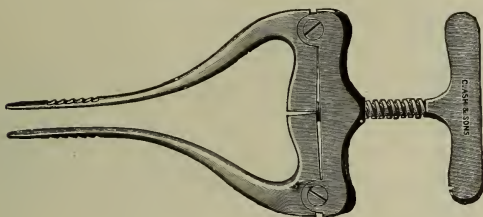
Mr. G. H. J. Rogers' Gag is a great advance upon existing Gags in that it can easily be taken to pieces, every part thoroughly cleansed, and put together again.

To take it apart it is only necessary to unscrew the top plate. In putting it together again the inside pillar should be pushed as far into the tube as it will go, and held there while the top plate is screwed into position; this will save the need of undue pressure being exercised in pressing the spiral spring sufficiently for the plate to be screwed into the pillar. In applying the Gag the spiral spring should be compressed—it is shown fully extended in the illustrations—and held down by inserting the little pin in the holes in the tube and pillar. When the Gag is *in situ* the withdrawal of the pin will allow the spring to keep the plates as fully extended as the mouth will allow.

Made in two lengths, the long one being shown in the illustration heavily nickel-plated and fitted with lead pads.

PRICE, Long or Short	each	s.	d.
		6	0

MOUTH OPENER.



	s. d.
In Steel, Nickel-plated	12 6

"It is usually advisable to introduce this instrument at some point where there is a tooth deficient, but should there be no gap, it is possible with care to insinuate the thin blades between closed teeth."—See Underwood's Notes on Anæsthetics.

CARTER'S ORAL NET SPOON.



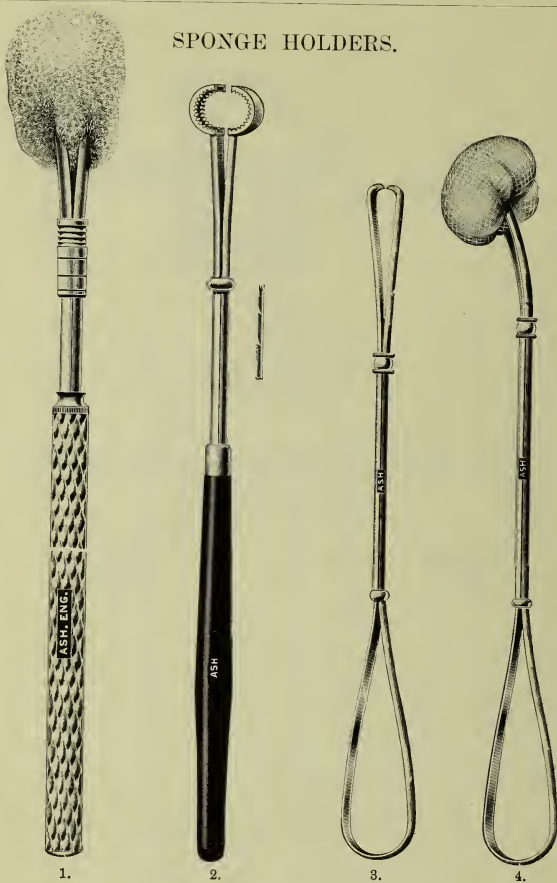
FOR USE DURING EXTRACTIONS UNDER ANÆSTHETICS.

Mr. Carter says : "Owing to the increasing use of Anæsthetics for dental purposes, a serious danger has arisen, viz., that of a tooth or stump escaping from the forceps and passing into the larynx when the patient is in a recumbent position and under the influence of an anæsthetic. The position favours its falling backwards, and the loosened sensibility of the glottis, added to the rush of the current of air during an inspiration, renders the patient particularly liable to the occurrence of an accident of this kind.

By the use of this instrument, not only may an obvious danger be avoided, but a great source of anxiety is removed from the mind of the operator."

	s. d.
PRICE	6 6

SPONGE HOLDERS.

*For prices, see next page.*

SPONGE HOLDERS—continued.

(See preceding page.)

No. 1, Ash's, with three Prongs and Sliding Sleeve.

	s.	d.
In Ebony Handle each	3	6
„ Metal „ „	3	6

No. 2, Mr. J. C. Clarkson's, with Sliding Ring and Serrated Jaws. Full length, 8 inches.

Mr. Clarkson says: "The Sponge should be fixed in the jaws while damp, and twisted lengthwise during insertion, and care should be taken that no part of the Sponge enters the slit in the stem to prevent the sliding ring being pushed up to the jaws.

The back of the tongue can be reached with the Holder with ease and perfect safety, and there are no sharp edges about the metal to scratch or tear the tissues."

	s.	d.
In Ebony Handle, Nickel-plated each	3	6

Nos. 3 and 4, Aseptic, with Sliding Ring, Straight	s.	d.
and Curved, Nickel-plated each	1	6

SIMPLE MOUTH OPENER.

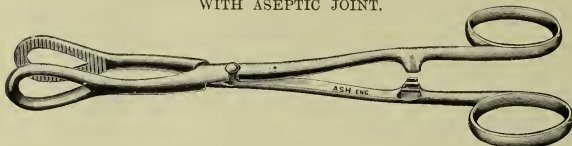
For inserting between the teeth, when the jaws are tightly closed, to gain sufficient room for the introduction of Mason's Gag.



PRICE, in Boxwood	s.	d.
	0	6

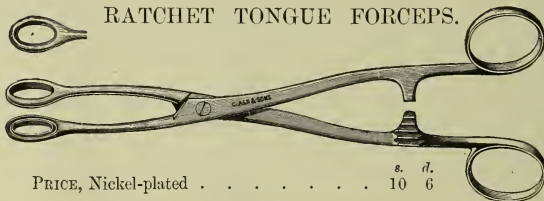
TONGUE FORCEPS.

WITH ASEPTIC JOINT.



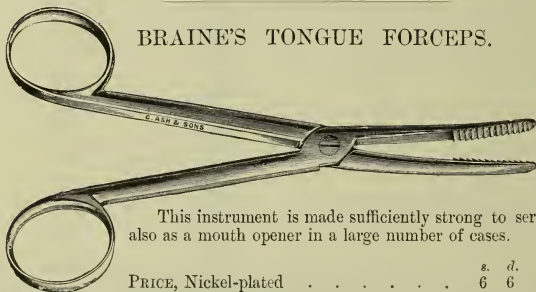
In best Steel, hand-forged, Nickel-plated . . . each

s.	d.
10	6

RATCHET TONGUE FORCEPS.

PRICE, Nickel-plated

s.	d.
10	6

BRAINE'S TONGUE FORCEPS.

This instrument is made sufficiently strong to serve also as a mouth opener in a large number of cases.

PRICE, Nickel-plated

s.	d.
6	6

"Should the breathing stop during the administration of Nitrous Oxide Gas, or any other anæsthetic, the forcible pulling forward of the tongue, and the administration of nitrite of amyl within a few seconds after unmistakable signs of something unusual in the breathing have appeared, will in almost every case remove the difficulty, and the slight puncture made by the forceps will probably assist the reflex stimulus."

—See Underwood and Braine's Notes on Anæsthetics. 2nd edition.

“UNIVERSAL” INHALER (PATENTED).

(Suggested by Mr. WILLIAM GUY, F.R.C.S., L.D.S. Edin.)

FOR THE ADMINISTRATION OF NITROUS OXIDE AND ETHYL CHLORIDE.

I.—With Nitrous Oxide and Ethyl Chloride.

1. Have the three-way stopcock at “Air” and the indicator opposite the arrow. Fill the bag with gas by slipping the rubber tube from the gas cylinder over the ball-and-socket mount. When the bag is full, rotate the bag mount on the three-way stopcock through a quarter circle; disconnect from the gas cylinder by pulling off the rubber tube.

2. Measure the dose of Ethyl Chloride into the glass measure, connect to the ball-and-socket mount in dependent position, rotate the bag mount back through a quarter circle till the indicator is again in register with the arrow.

3. Adjust the facepiece, turn the three-way stopcock to “No Valves” at the end of an expiration; allow the patient to breathe the gas backwards and forwards from the bag for four breaths. Then discharge the Ethyl Chloride into the bag by tilting up the mount of the ball-and-socket joint.



2.—With Nitrous Oxide Gas alone.

The two-gallon bag should be used. The stopcock is put at “Air,” the bag filled with gas, the facepiece is adjusted, the stopcock is turned on to “Valves” or “No Valves,” according to the practice of the anæsthetist, and the administration proceeds.

Inhaler, complete with facepiece, three-way stopcock, bag

mount, graduated measure, one-gallon rubber bag, 5 feet £ s. d.

India-rubber tubing to connect gas cylinder and inhaler . 2 11 0

Two-gallon Gas Bag 0 8 6

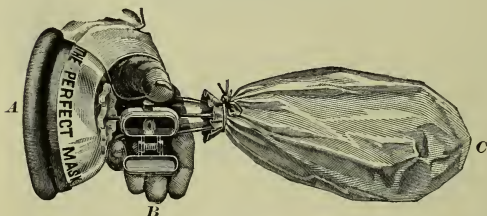
THE PERFECT MASK (*PATENTED*).

(Designed by FIELD ROBINSON, D.D.S., Univ. of Penn.)

**Aseptic, Transparent, Simple in Construction,
Readily Sterilised, Reliable, Economical, and
Insoluble to Anæsthetics of the Ethyl-Methyl Class.**

SUITABLE FOR USE IN ADMINISTERING

**Somnoform, Ether, Ethyl Chloride, Chloroform,
Ethyl-Methyl Mixtures.**



Mask complete, with door of metal chamber open. *A*—Pneumatic India-rubber pad—commonly known as Facepiece pad. *B*—Metal chamber on side of glass frame. *C*—Sterilised bladder. (If preferred, an India-rubber bag can be used instead.)

The general opinion of the **Perfect Mask**, independently of its aseptic and practical value, is that with a dose of 3 cubic centimetres anæsthesia can be more quickly produced and is of longer duration, when the Mask is used, than can be obtained with a larger dose when the simple handkerchief cone is used.

The manipulation of the **Perfect Mask** is as easy and simple as can be desired.

Perfect Mask, complete in box with two facepiece pads,
one India-rubber bag or four sterilised bladders, £ s. d.
and one box of aseptic lint diaphragms . . . 2 2 0

Separately:—

Glass Mask with metal chamber and wire frame	0	16	0
Facepiece Pads, large or small, with Taps each	0	9	9
India-rubber Bag	0	7	6
Sterilised Bladders per set of 4	0	3	3
Aseptic Lint Diaphragms. per box	0	0	10

Send for Circular.

THE "SIMPLEX" INHALER

FOR ETHYL CHLORIDE.

This Inhaler was suggested by Dr. T. D. Luke, Anæsthetist to the Royal Infirmary, Edinburgh. Its great advantage is its simplicity; there is really nothing to get out of order. In addition to this, the Inhaler can be at any moment adapted to the Ether Chamber of a Clover's Inhaler and the Ethyl Chloride-Ether sequence can be used.

Instructions for Use :

Inflate the face pad, but not too tightly.

Having first removed the spring plug, insert the nozzle of the stopcock directly into the supply tube of the Inhaler.

Press the spring tap, which will at once allow the anæsthetic to be discharged into the bag of the Inhaler.

The exact dose can be easily measured by watching the level of the liquid against the graduated measure on the side of the cylinder.

Replace the plug, and immediately proceed to give the anæsthetic.

To use the 3 or 5 c.c. Glass Capsules.

Hold the capsule vertically, and snip off the top of the neck. **Invert the Inhaler** and place the neck of the capsule in the little tube from which the plug has been removed. Quickly turn over the Inhaler, when the contents of the capsule will instantly enter the bag. Replace the plug before proceeding to anæsthetise.

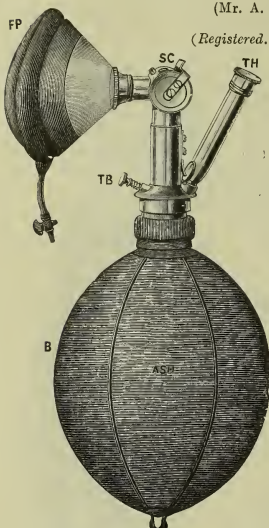
Inhaler, with Celluloid Facepiece, Nickel-plated Mounts, and fitted £ s. d.
with wide-mouthed Reversible Bag of superior quality 1 13 0



ETHYL CHLORIDE INHALER.

(Mr. A. McFARLANE'S.)

(Registered. Reg. No. 456,388.)



FP—Facepiece.

SC—Two-way Stopcock.

TH—Glass Tube Holder.

TB—Glass Tube Breaker.

B—India-rubber Bag.

TH is not used when the Ethyl Chloride is sprayed into the Retainer from a large graduated tube.

any of the ethyl chloride or somnoform cartridges now in use. It has an automatically closing lid to aperture for inserting ethyl chloride, and a crushing device for breaking the tube after insertion. A two-way stopcock controls the vapour (which is quite enclosed), permitting at will a start to be made with the smallest possible quantity, gradually adding to it as required, without help or removal of the facepiece. It gives the patient confidence by permitting free breathing, securing good inspiration before turning on the stopcock. A disc of blotting paper, folded and placed in the retainer, holds ethyl chloride in suspension, which is thus more evenly distributed with each expiration."—*British Dental Journal*.

Mr. McFarlane's Inhaler possesses all the advantages of other Inhalers in which a sealed glass tube can be broken inside the metal mount, but in addition it is provided with a Two-way Stopcock, which admits of the Ethyl Chloride vapour being kept in the Bag until it is required for use, either after a sealed glass tube has been broken or the Ethyl Chloride has been sprayed from a large tube into the Retainer. Further, with the Two-way Stopcock, any quantity of the vapour, from a very small to a full volume, can be admitted to the Facepiece at will, or it can be cut off entirely and air admitted instead, if desired. It thus gives the administrator perfect control over the Anæsthetic.

Inhaler complete as illustrated, including Facepiece,	£	s.	d.
Two-way Stopcock, Glass Tube Holder, and India-	2	8	0
rubber Bag			

ETHYL-CHLORIDE INHALER—LOBJOIS'.

(PATENTED.)

Specially designed for taking the sealed tubes of
PURE ETHYL CHLORIDE, OR SOMNOFORM,
 but it is also equally well adapted for use in administering any of the
 Anæsthetics of the

ETHYL OR ETHYL-METHYL CLASS,
 although only Ethyl Chloride is referred to in the description of the Inhaler
 and its advantages.

This illustration shows the
 Inhaler complete, ready for use.

ADVANTAGES:

1. It holds the bulb of
 Ethyl Chloride containing the
 dose necessary for producing
 anæsthesia.

2. Additional Ethyl Chloride
 can be applied, if required,
 during the administration, with-
 out removing the Facepiece.

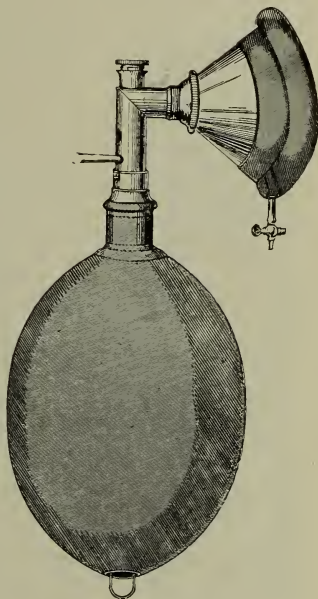
3. Air can be given and
 regulated according to the needs
 of the patient by means of the
 Air Valve **D**.

4. The Ethyl Chloride is
 so securely confined within the
 cage **F** that when the Face-
 piece is applied there is no
 waste, and all the Anæsthetic
 vapour is freely inhaled by the
 patient without discomfort or
 sense of suffocation.

5. The Inhaler is extremely
 portable.

6. It is simple in construc-
 tion, and all its parts can be
 readily sterilised.

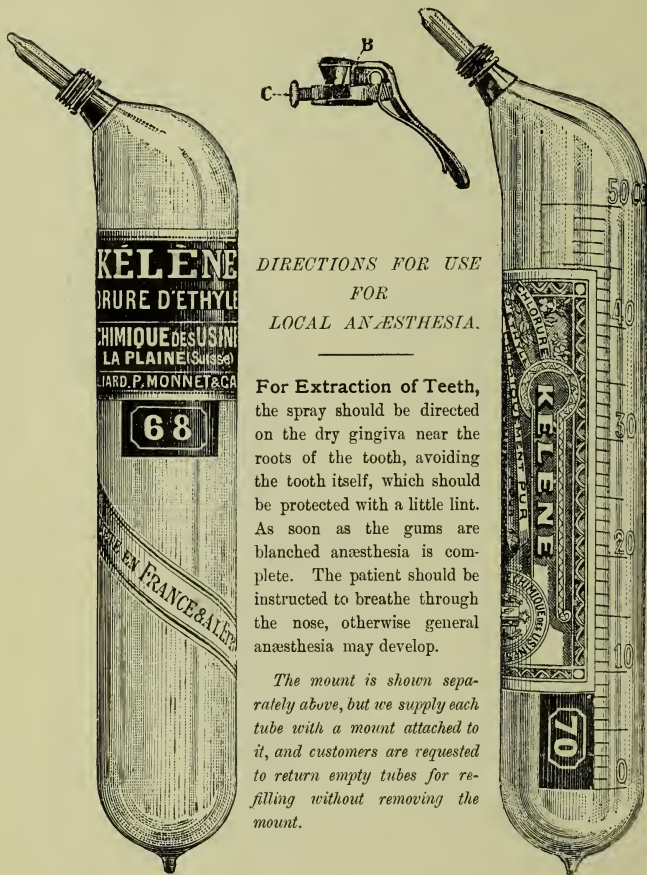
7. It is thoroughly well
 made, and moderate in price.



LOBJOIS' No. 1 INHALER.

Inhaler, complete	3. d.
K	25 6
	I

KÉLÈNE: PURE CHLORIDE OF ETHYL.



DIRECTIONS FOR USE
FOR
LOCAL ANÆSTHESIA.

For Extraction of Teeth,
the spray should be directed on the dry gingiva near the roots of the tooth, avoiding the tooth itself, which should be protected with a little lint. As soon as the gums are blanched anæsthesia is complete. The patient should be instructed to breathe through the nose, otherwise general anæsthesia may develop.

The mount is shown separately above, but we supply each tube with a mount attached to it, and customers are requested to return empty tubes for re-filling without removing the mount.

KÉLÈNE: PURE CHLORIDE OF ETHYL.

A most reliable **General** and **Local Anæsthetic** for Dental Extractions and for Operations in Minor Surgery. It is used by thousands of Operators with much satisfaction.

Supplied in plain and graduated Glass Tubes with Automatic-Closing Caps, as illustrated on previous page.

The **AUTOMATIC CAP** saves time and waste, the Tube is always ready for instant use, it requires but little attention from the Operator when anæsthesia is reached, and may be laid down at once without fear of the Kélène escaping if the spring is firmly closed.

FOR LOCAL ANÆSTHESIA.

Plain Glass Tubes with Straight or Curved Nozzles.

		s.	d.
60-gramme size in box	per tube	3	9
Refilling same	"	2	9
30-gramme size, 3 tubes in box	per box	7	1
Refilling same	"	5	7
30-gramme size, 1 tube in box	per tube	2	9
Refilling same	"	2	3

FOR GENERAL ANÆSTHESIA.

Glass Tubes, graduated in cubic centimetres, 0 to 50.

These tubes have larger openings and consequently give a fuller spray than the tubes for local anæsthesia.

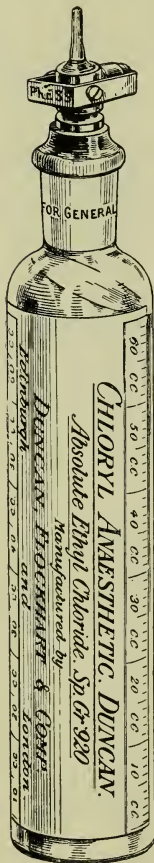
60-gramme size graduated tube, with Straight or Curved	s.	d.
Nozzle	per tube	4 0
Refilling same	"	3 0
In boxes of 12 sealed glass tubes, containing 5 c.c.	per box	5 6
" " " " 3 c.c.	"	4 6

Ethyl-Chloride Inhalers—see pages 109–113.

DUNCAN, FLOCKHART & CO.'S AUTOMATIC CYLINDER FOR CHLORYL ANÆSTHETIC

(ABSOLUTE ETHYL CHLORIDE).

FOR GENERAL ANÆSTHESIA.



To obtain complete success, it is of vital importance that an absolutely pure Ethyl Chloride should be employed. Otherwise disconcerting results may follow, involving disappointment to the Operator, chagrin to the Anæsthetist, and great discomfort to the patient. This cannot be too strongly insisted upon. As long as any trace of impurity remains uneliminated, the drug cannot be relied upon to do its work efficiently. With an absolutely pure Ethyl Chloride, the Anæsthetist may approach his task with an easy mind and with the most perfect confidence of producing a rapidly successful result.

Duncan's Chloryl Anæsthetic fulfils all the requisite conditions of an ideally perfect drug. It is *absolute* Ethyl Chloride free from Hydrochloric Acid, empyrenmatic bodies, and ethers. It has a distinctly pleasant ethereal odour, in this important respect differing considerably from some other brands, and its vapour is not irritating to the eyes.

The cylinder is provided with a stopcock, by which any desired quantity of the anæsthetic can be discharged by gentle pressure with one finger. Ethyl Chloride may thus be easily administered, and the anæsthesia kept under control.

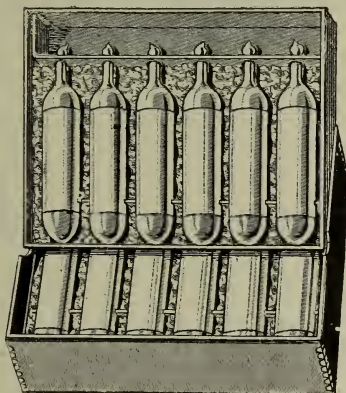
	s.	d.
60-c.c. Cylinder	3	1
Refilling	3	0
Patent Stopcock (general)	1	3
" " (local)	1	6
In boxes of 12 sealed glass tubes, containing 3 c.c. per box	5	0
" " " 5 c.c. "	6	0

Ethyl-Chloride Inhalers—see pages 109–113.

ETHYL CHLORIDE—BENGUÉ'S.

FOR GENERAL ANÆSTHESIA.

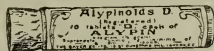
IN SEALED GLASS TUBES.



In Boxes of 12	3-c.c. Bulbs	per box	s. d. 4 6
„ „ 12	5-c.c. „	„	5 6

ALYPINOIDS D.

FOR LOCAL ANÆSTHESIA.

Each tablet contains—Alypin, $\frac{1}{3}$ gr. ; suprarenin borate, $\frac{1}{5000}$ gr.

Each tablet dissolved in 1 c.c. (17 minims) of sterile water furnishes a 2 per cent. solution ready for use.

Supplied in tubes, each containing 10 tablets	per tube	s. d. 0 10
---	----------	---------------

ALYPIN.

Alypin is a pure drug and unassociated chemically with cocaine.

It is much less toxic than cocaine, while being equally efficient and rapid in action.

It is used in strengths similar to cocaine.

Alypin Powder, in tubes of 16 grains	per tube	s. d. 0 10
--	----------	---------------

Circular on application.

ANESTILE—BENGUÉ'S.

FOR LOCAL ANÆSTHESIA—continued.

FIG. 4.



FIG. 4.—Cylinders with Metal Valve Stopper :

		s.	d.	s.	d.
50-gramme size . . .	full	4	0	refilling	2 3
100- " " . . .	"	6	3	"	4 3

FIG. 5.

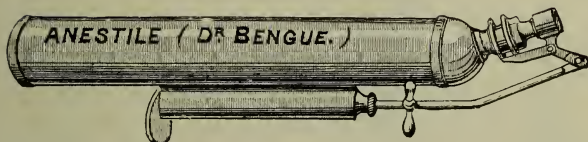


FIG. 5.—Cylinder with Automatic Cap :

		s.	d.	s.	d.
75-gramme size . . .	full	10	6	refilling	4 2

FIG. 6.



FIG. 6.—Stopcock Cylinder, with two interchangeable jets—(1) Spray Jet for large surfaces, and (2) Capillary Jet :

		s.	d.	s.	d.
125-gramme size . . .	full	10	0	refilling	6 0

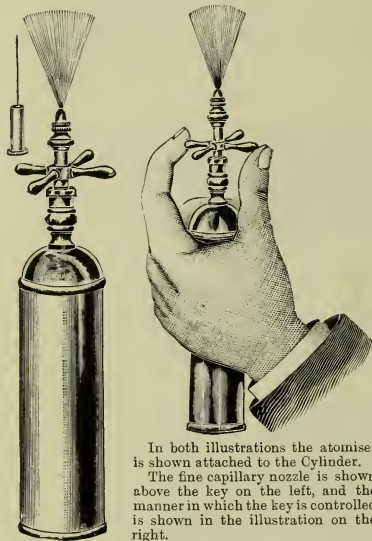
ANESTILE—BENGUÉ'S.

FOR LOCAL ANÆSTHESIA—*continued.*

Being aware of the inconvenience sometimes experienced by the Operator when using Chloride of Ethyl or Anestile for local anaesthesia, owing to the blockage of the outlet, we have devised a special nozzle which prevents stoppage.

Fig. 7 Cylinder is provided with two nozzles—a fine capillary nozzle for producing local anaesthesia for operations over a small surface and for the extraction of teeth, and an atomiser for producing local anaesthesia for

FIG. 7 (PATENTED).



In both illustrations the atomiser is shown attached to the Cylinder.

The fine capillary nozzle is shown above the key on the left, and the manner in which the key is controlled is shown in the illustration on the right.

operations over a large area and for cooling impressions in the mouth. Instant refrigeration is produced with a very small quantity.

*Directions for using**Fig. 7 :*

Screw on the Cylinder either the jet or the atomiser, as may be required, take the Cylinder in the right hand, hold the Key Regulator between the thumb and index finger of the left hand, turn the Key from right to left to open the tap and adjust it to obtain the necessary size of spray.

It can then be worked and regulated with one hand with the greatest ease.

When the operation is finished give an extra turn to the Key Regulator, in order to ensure perfect closure of the tap.

FIG. 7.—Cylinder with fine Nozzle and Atomiser :

	s.	d.	s.	d.
125-gramme size . . . full	15	0	6	0

NARCOTILE—BENGUÉ'S.

FOR GENERAL ANÆSTHESIA.

"NARCOTILE" is pure Ethyl Chloride after it has been passed through a special process of distilling, which renders it free from any possible impurities. "NARCOTILE" has a slight **ethereal odour**, which is very **pleasant** and **agreeable to the patient**.

FIG. 8.

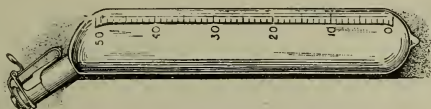
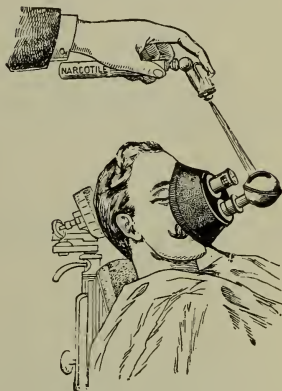


FIG. 8.—Graduated Glass Tube, with Valve Stopper :

		s.		d.	
50-c.c. size	full	3	9	refilling	2 6

During the last few years "NARCOTILE" has been extensively used for producing general Anæsthesia in the several Hospitals in Paris, in the Paris School of Dentistry, in Great Britain, the United States, and other countries, with the most satisfactory results.

It is greatly appreciated by Anæsthetists on account of its portability, unalterable composition, rapidity of action, harmless and easy employment.



	s.	d.
Facepiece and Anæsthetic Cup complete, in cardboard box	25	6
Anæsthetic Cup only, for fitting to existing Facepieces .	5	0

STOVAINE.

(REGISTERED.)

AN IDEAL ANÆSTHETIC FOR USE IN SURGICAL AND
DENTAL PRACTICE.*Guaranteed not to contain Cocaine.**Do not fail to try it.*

STOVAINE is pure Chlorhydrate of Amyleine. It is administered hypodermically like cocaine; its anæsthetic action is equal to that of cocaine; it is much less toxic than cocaine; it exerts a tonic action on the heart; in a word, it possesses all the advantages of cocaine without any of its dangers.

STOVAINE has a wide range of application, and is being very extensively used by surgeons and dentists all over Europe and in the United States and Canada with the greatest success and satisfaction.

1.—The most convenient and popular form in which Stovaine is put up is a 1 per cent. Solution in *Oil of Eucalyptus, Oil of Wintergreen, Boric Acid, Glycerine, Tincture of Rosemary, Thymol, Oil of Peppermint, Benzoic Acid, Carbolic Acid* .05 per cent., and *Alcohol*.

		s.	d.
Price, in 2-oz. bottles	per bottle	4	0
In lots of 6 bottles	per lot	21	6
" 12 "	"	41	0
" 25 "	"	80	0
" 50 "	"	150	0
" 100 "	"	280	0

2.—Stovaine is also supplied in 2-c.c. glass tubes containing a 1 per cent. Solution in distilled water, as used and recommended by Dr. Sauvez, of Paris.

		s.	d.
Price	per box of 12 tubes	3	3
"	" 50 "	11	6

3.—And in Fine Powder in corked glass tubes, each tube containing sufficient to make one ounce of a 1 per cent. Solution with boiling water, as required.

		s.	d.
Price	per box of 12 tubes	4	0

NOTE.—To obtain the best results with Stovaine it is necessary to keep strictly to the time recommended by the manufacturers, viz.: two minutes after injection. When the Operator has finished injecting, he should look at his watch, and as soon as two minutes have elapsed he should at once proceed with the extraction of the tooth or teeth.

NOVOCAIN.

For the Painless Extraction of Teeth. One of the safest and most powerful of Local Anæsthetics.

ABSOLUTELY NON-IRRITANT,
SCIENTIFICALLY PREPARED,
UNATTENDED BY AFTER-EFFECTS.

Tablets.—Novocain is prepared in Tablet form, known as **Dental Novocain-Suprarenin Tablets.**

	<i>s. d.</i>
Put up in tubes, 20 tablets in each tube . . . per tube	1 6

These Tablets yield uniformly excellent results; a fresh reliable solution can at all times be made from them; and they are giving the greatest satisfaction to all Dentists who are using them.

Solution.—Also in a 2 per cent. isotonic **Novocain-Suprarenin Solution**, as follows:—

Novocain	0·02 gramme.	
Suprarenin	0·00015 „	
Sodium Chloride	0·009 „	
		<i>s. d.</i>
Supplied in 1-oz. bottles per bottle		2 6
„ 2-oz. „ „		4 6

Ampoules.—And in ampoules, which are supplied in boxes *s. d.*
of 10 per box 3 4

The following discounts are allowed off purchases *at one time* of Novocain in quantity, as under:—

5 % off 3 doz. Tubes of Tablets, at 18s. per doz.	(54s.)
or 2 „ 1-oz. Bottles Solution at 30s. per doz.	(60s.)
or 1 „ 2-oz. „ „	(54s.)
10 % off Five Pounds' worth (£5) of Tablets or Solution.	

NOPAINE.

(MR. W. R. BLACK'S.)

Efficiency combined with Safety.

Produces a Perfectly Localised Anæsthesia immediately after Injection.

Nopaine contains less than 1 % Cocaine, Hydrochlor., Suprarenin, Wintergreen, and suitable Antiseptics. It is sterilised; and its purity and reliability are guaranteed by the manufacturer.

	s.	d.		£	s.	d.
1-oz. bottle	1	6	per dozen	0	16	6
2-oz. „	3	0	„	1	11	6
6-oz. „	8	0	„	—		
24 ozs. in four 6-oz. bottles.				1	11	0
50 ozs.				3	3	6

ANÆSTHUNDER.

(MR. W. R. BLACK'S.)



This Anæsthetic contains 1·23 per cent. of Beta-Eucaine, combined with Suprarenin and suitable antiseptics. Every ounce is manufactured by the proprietor in person, so that the Profession can rely upon the absolute uniformity and purity of the preparation.

	s.	d.		£	s.	d.
1-oz. bottle	1	6	per dozen	0	16	6
2-oz. „	3	0	„	1	11	6
6-oz. „	8	0	„	—		
24 ozs. in four 6-oz. bottles.				1	11	0
50 ozs.				3	3	6

WILSON'S LOCAL ANÆSTHETIC.

IN BOTTLES AND IN AMPOULES.

Wilson's Anæsthetic in Ampoules is a new idea.

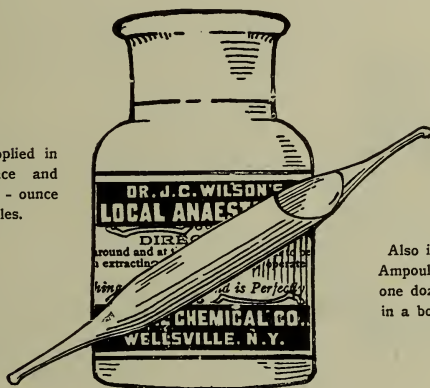
Nothing could be cleaner, nothing more convenient.

The Anæsthetic has been the standard for years, and will be for years to come.

The Ampoules are filled in a vacuum, hermetically sealed, and twice sterilised. By simply breaking off the end of an Ampoule you have a syringe full of an absolutely sterile solution that has not even come into contact with the air. Carelessness cannot pollute them.

THEY ARE PERFECTION.

It is supplied in
one - ounce and
in two - ounce
bottles.



Also in
Ampoules,
one dozen
in a box.

	1 oz.	2 oz.	6 oz.	12 oz.
In bottles	3/0	6/0	16/0	30/0
				s. d.
Per box of 12 Ampoules				3 0

SOMNOFORM.

FOR GENERAL ANÆSTHESIA.

In boxes of six 3-c.c. tubes	per box	s. d.
„ „ 5-c.c. „	„	4 0
„ of twelve 3-c.c. tubes	„	5 9
„ „ 5-c.c. „	„	5 9
In 60-c.c. bottles	per bot.	5 0
Valve Stopper for 60-c.c. bottles	each	5 0*

“ I S O T O N E . ”

(TRADE MARK.)

A NON-IRRITANT LOCAL ANÆSTHETIC.

Isotone produces more perfect anæsthesia than cocaine and than many other local anæsthetics. Cocaine is eight times more toxic than Isotone.

Isotone, when used according to directions, diffuses without resistance, penetrates rapidly, and ensures



Perfect anæsthesia,
No irritant action,
No injuries to the tissues,
No painful after-effects, and
A minimum of toxicity.

1 tablet in 32 minims = 1 per cent. solution.

1 „ in 16 „ = 2 „ „

DIRECTIONS FOR USE :

The tablets should be dissolved in sterilised water. For very difficult extractions, use the 2 per cent. solution ; for simple extractions, use the 1 per cent. solution. In two or three minutes the extraction can be performed painlessly. Loose teeth may be extracted by simply applying a 2 per cent. solution on a plug of cotton-wool to the gums.

The anæsthesia lasts from half to three-quarters of an hour.

For excavating and drilling into sensitive dentine, or for extracting pulps, a 2 per cent. solution, injected as instructed for the extraction of teeth, will ensure perfect insensibility to pain.

In bottles containing 100 tablets	per bot.	s. d.
		6 0

CHLOROFORM, PURE.

DUNCAN'S, S.G. 1490 P.B.

In stoppered bottles :

		s.	d.
2-oz. size	per bot.	1	0
4-oz. „	„	1	10
8-oz. „	„	3	3

BOTTLES.

GLASS, INSCRIBED "CHLOROFORM" OR "ETHER."

WITH PATENTED STOPPERS.

Sizes :—2-oz.	4-oz.	6-oz.	8-oz.
Each 6 0	6 6	7 0	7 6

CARDIACTIS.

(MR. W. R. BLACK'S.)

An aromatic stimulating tonic containing in each dose 5 minims of fresh standardised Tincture of Strophanthus, for cardiac weakness, fainting and collapse.

Invaluable for Dental Operations.

Unfavourable symptoms of the above type are occasionally manifested after the simplest operations, usually owing to the condition of the patient. This is especially the case when an anæsthetic (local or general) has been administered. A dose of **Cardiactis** taken before the operation will relieve nervousness and palpitation, and steady the heart for the safe administration of the anæsthetic.

An Elegant Preparation. Pleasant in Appearance and Taste.

		s.	d.
In 2-oz. Bottles	per bot.	1	6
„ 4-oz. „	„	2	9

ADRENALIN (PARKE, DAVIS & CO.'S).

Adrenalin : Chloride 1 part, Physiologic Solution Sodium Chloride (with 0·5 per cent. Chloretone) 1,000 parts.—Adrenalin is the active principle of the suprarenal gland. The most powerful hæmostatic and astringent known. It is invaluable after extraction ; it promptly arrests capillary bleeding, and has also been employed for restoring the heart's action in cases of syncope during anæsthesia.

In 1-oz. bottles	s. d.
per bot.	4 0
„ boxes of 12 ampoules, each containing $\frac{1}{2}$ c.c.	„ box 3 6

Adrenalin Gauze Tape consists of sterilised gauze in tape form. Both running edges of the tape are selvaged, the only cut edge under any circumstances being that formed by clipping off the required length for dressing or tamponing. This obviates the annoyance from short particles of fibre in the wound, which is so apt to follow the use of ordinary dressings.

In jars containing 10 yards	s. d.
per jar	2 0

Adrenalin Chloride Solution, 1 in 1,000, in capsules (Martindale's), each containing about 10 minims.

In boxes of 8 capsules	s. d.
per box	2 6

VASO-CONSTRICTINE (DUNCAN).

FOR ARRESTING HÆMORRHAGE, ETC.

A 1/1,000 solution of the physiologically active principle of the suprarenal gland, diluted with sterilised normal saline solution, together with 0·25 per cent. Atropine, **for arresting hæmorrhage after the extraction of teeth.**

In dental practice, preparations from the suprarenal gland are being more and more employed year by year, and Duncan's Vaso-Constrictine will find a place because it is an accurately standardised, reliable, and convenient compound, which can be rapidly employed on cotton-wool for plugging the sockets from which teeth have been extracted.

Vaso-Constrictine has many other uses in medical and surgical practice, particulars of which can be had on application.

1-oz. bottle	s. d.
	4 0

BOOT PROTECTORS.

For protecting the soles of boots from the spikes of Gas Cylinder Foot Keys.

In solid leather	s. d.
each	3 6

K

K

PERGENOL :

A SOLID COMPOUND OF HYDROGEN PEROXIDE.

IN DENTAL SURGERY.—Pergenol solutions are recommended in dental surgery for cleansing and disinfecting the field of operation, for irrigating the pulp-canals before stopping, for the after-treatment of infected wounds, for the extraction of diseased roots and teeth where there is extensive periodontitis and abscess. Pergenol relieves the after-pain. For the treatment of alveolar pyorrhæa, dental fistula, gingivitis and the like, 10 to 25 % solutions are applied.



Sterilising Instruments.—Pergenol solutions are specially recommended for sterilising instruments, syringes, and needles. Its neutral character and composition render it particularly valuable for the disinfection of syringes before injections of Novocain.

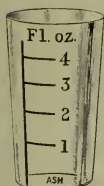
Hæmostatic Action.—As a hæmostatic, Pergenol controls slight alveolar hæmorrhages. By tamponading with the powder, hæmorrhage after extraction is allayed.

For the Hygiene of the Mouth and Teeth.—For general use Pergenol is supplied in the following forms, in which the valuable properties of hydrogen peroxide for the hygiene of the mouth and teeth are for

the first time rendered available to the public in solid form :—

- (1.) **Pergenol Mouth Lozenges.**—Each lozenge contains $1\frac{1}{2}$ grains of Pergenol. They are of pleasant flavour and dissolve slowly in the mouth, with liberation of hydrogen peroxide, and are completely free from any corrosive or irritant effect.
- (2.) **Pergenol Dentifrice Tablets.**—The daily use of antiseptic mouth-washes, prepared as required with these Pergenol

PERGENOL—*continued.*



tablets, not only affords a mild and non-irritant antiseptic which does not attack the dentine or the mucous membrane, but the *disengagement of oxygen in the mouth* effects a mechanical purification of the teeth and mouth, whilst the oxygen bleaches the teeth a beautiful white, and destroys any bad odour in the mouth. In use, dissolve one or two tablets in a small glass of warm water.

Pergenol Preparations must be kept in closed bottles, and not allowed to come in contact with water or moisture before use.

Pergenol is supplied in the following forms :—

		$\frac{1}{4}$ lb.	$\frac{1}{4}$ lb.	2 ozs.
Powder in Tins	per tin	5/0	2/6	1/6
				s. d.
Medical Tablets in Tubes	per tube			0 9
Mouth Lozenges in Tubes	„			0 9
Dentifrice Tablets, 75 in Opal Bottle	„			1 6
Glass Measure, as illustrated, for use in making solutions of Pergenol, etc. ; capacity, $\frac{1}{4}$ fluid ounces	each			0 9

CARBOLATED VASELINE.

(PURE VASELINE WITH 3 PER CENT. OF CARBOLIC ACID.)

For lubricating the packings of Gunthorpe's, The Imperial, and other Hypodermic Syringes ; useful also for cuts and wounds : it reduces inflammation, secures a clean, healthy condition around the affected part, and thus aids nature in the work of healing. The wound should afterwards be bandaged with lint or soft linen.

	s. d.
Per bottle	0 9



LOCAL ANÆSTHETICS.

FOR HYPODERMIC INJECTION.

Full particulars of any of the following preparations can be had on application.

	s.	d.
Adralgin, in boxes of 12 Ampoules	per box	2 0
Alypin Powder	per bottle	0 10
Alypinoids, in glass tubes	per tube	0 10
Alvatunder—fluid	1-oz. bottle	3 6
" " " " " " " " " " " " "	2-oz. "	6 6
" " " " " " " " " " " "	6-oz. "	18 0
" " " " " " " " " " " "	12 ozs., including Hypodermic Syringe	35 0
Anæsthunder—see page 124.		
Anæzol	per oz.	2 0
Baldock's Cocaine Solution	per bottle	4 0
" " " " " " " " " " " "	with Adrenine (Hæmostatic)	5 0
" " " " " " " " " " " "	Beta-Eucaine Solution	4 0
" " " " " " " " " " " "	with Adrenine (Hæmostatic)	5 0
Certainé	"	2 6
Cocaine and Adrenalin Tablets (Parke, Davis & Co.'s):		
In tubes of 25 tablets	per tube	2 0
Cocaine Powder, Hydrochlorate (Reynolds & Branson's):		
In tubes containing 1 grain	per doz. tubes	2 0
In bottles " 15 grains	" per bottle	1 6
" " " " " " " " " " " "	1 oz.	1 9
Cocaine Tablets, Hydrochlorate (Burroughs, Wellcome & Co.'s):		
In tubes containing 12 $\frac{1}{2}$ -grain tablets	per tube	0 7
" " " " " " " " " " " "	per doz. tubes	6 0
Cocaine Pellets (Wyley's), $\frac{1}{2}$ -grain size:		
In tubes containing 12 pellets	per tube	0 10
" " " " " " " " " " " "	per $\frac{1}{2}$ doz. tubes	4 6
Codrenine—fluid—1-oz. bottle (Parke, Davis & Co.'s)	per bottle	2 6
" in boxes of 1 dozen $\frac{1}{2}$ -c.c. Ampoules	per box	2 6
Ether, Anhydrous—see pages 89, 97.		
Ethyl Chloride—see pages 114–118.		
Eucaine-Beta—powder—in 1-gramme bottles	per bottle	0. 8
Eucaine-Lactate (Burroughs, Wellcome & Co.'s):		
In glass tubes containing 12 tablets ($\frac{1}{3}$ -grain)	per tube	0 7
" " " " " " " " " " " "	per doz. tubes	6 0
Eudrenine (Parke, Davis & Co.'s)	1-oz. bottles	2 6
" in boxes of 1 dozen $\frac{1}{2}$ -c.c. Ampoules	per box	2 6
Hobbs' Local Anæsthetic—fluid	per bottle	2 6
Mylocal Fluid—2-oz. bottles	"	3 9
" " " " " " " " " " " "	4-oz.	5 0
Neurocaine—Discoids	per tube	4 0
Nopaine—see page 124.		
Novocain—see page 123.		
Stovaine—see page 122.		
Waite's Local Anæsthetic	per 1-oz. bottle	4 0
" " " " " " " " " " " "	2-oz. "	8 0
" " " " " " " " " " " "	6-oz. "	20 0
Wilson's Local Anæsthetic—see page 125.		
Winthrop's Local Anæsthetic	per 1-oz. bottle	2 6
" " " " " " " " " " " "	2-oz. "	5 0
" " " " " " " " " " " "	6-oz. "	13 0
" " " " " " " " " " " "	12-oz. "	21 0

LOCAL ANÆSTHETICS.

FOR OUTWARD APPLICATION TO THE GUMS.

		s.	d.
Aponia—fluid (Jameson's)	2-oz. bottle	2	6
Caloric Fluid (Scott's)	½-pint	9	0
" " (Snape's)	large	4	6
" " (Snape's)	small	2	6
" " (Snape's)	large	4	6
" " (Snape's)	small	2	6
Eucathymen (Davis's)	"	2	6
" " (Davis's)	medium	5	0
" " (Davis's)	large	11	0
" " (Davis's)	extra	21	0

ANTISEPTIC PREPARATIONS.

FOR STERILISING STEEL INSTRUMENTS WITHOUT RUSTING THEM.

		s.	d.
Creosantis	½-pint bottle	1	3
" " (Creosantis)	1-pint	2	0
Hay's Kresol	small	0	7½
" " (Hay's)	large	1	0
Lysoform	small	1	0
" " (Lysoform)	large	2	6
Lysol	small	1	0
" " (Lysol)	medium	1	9
" " (Lysol)	large	3	0
Microl	1-pint	1	6
Phenico	per	2	6

BOOKS ON ANÆSTHETICS.

BLUMFELD.—Anæsthetics : A Practical Handbook. By J. BLUMFIELD, M.D. Cantab., Senior Anæsthetist to St. George's Hospital, Hon. Anæsthetist to St. Mary's Hospital and to the Grosvenor Hospital for Women and Children, London. s. d.
Second Edition. 109 pages net 2 6

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SIMPLE STERILISER—Fig. 2.



The simple Steriliser consists of a seamless Container, stamped out of one piece of metal, with flat drop-on Lid, four strong removable Legs, perforated, sheet Tray, and two lifting Hooks. It is made of brass, simply and solidly constructed throughout, heavily nickel-plated and polished.

The perforated sheet Tray is intended for holding small instruments, such as Engine Burs, as well as long-handled Instruments, Forceps, Mouth Trays, etc., etc., and when the sterilising process is completed it can be lifted out and immersed in hot water before the instruments or other articles are wiped dry and cleaned ready for future use.

PRICE, complete with Spirit Lamp or Gas Burner £ s. d.
1 7 6

THE RECORD STERILISERS—Figs. 4 and 5.

FIG. 4.

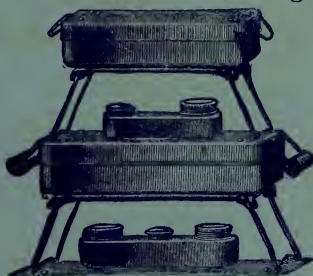


FIG. 5.

About $\frac{1}{2}$ natural size.

Each of these Sterilisers consists of a folding Stand, a seamless Container, a perforated sheet Tray with Wire Hooks for lifting it, and a seamless Cover. Made of Brass, and Nickel-plated throughout.

Fig. 4, complete with Spirit Lamp or Gas Burner s. d.
14 0
" 5, " " " " 18 6

ASH'S
PATENTED LONG-RANGE PUMP CHAIR.

The Chair is made in two styles, as under :

1. With simple Foot-Rest.
2. With Extending Foot-Rest, as here shown.

In all other respects the two styles are identical.

It is kept in Stock in Maroon Plush, but it can be had to order in Plain Green Plush, or in Figured Plush, or in Morocco Leather.

We keep Seven Varieties of Figured Plush in Stock, also a nice variety of Saddle-Bags and Morocco Leathers, patterns of which may be had for selection on application.



ANÆSTHETIC POSITION—ABOUT MEDIUM HEIGHT.

Dental Operating Chairs re-upholstered and re-covered in various styles of plain and figured plush or morocco leather; bright parts re-nickelled equal to new; japanned parts re-japanned and tastefully decorated, at moderate prices.

Send for our Furniture List C.